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GOVERNMENT BOTANICAL GARDENS
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GOVERNMENT BOTANICAL GARDENS
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Section.....

No.....

PROCEEDINGS

OF THE

Agri-Horticultural Society

of Madras.

Vol. XI. (New Series.)

1902-03-04.

Madras:

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1905.

GOVERNMENT BOTANICAL GARDENS
LIBRARY.

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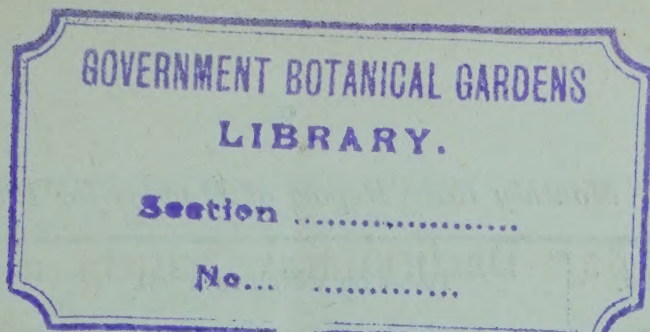
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**Proceedings of the Annual General Meeting of
the Members of Agri-Horticultural Society of
Madras for the year 1901, held on the 21st
March, 1902.**

PRESENT :

| | |
|---|--------------------------------------|
| The Hon'ble Mr. A. W. B. HIGGENS, I.C.S., <i>Chairman</i> . | G. NARAYANASAWMI CHETTIAR, Esq. |
| Rao Bahadur A. THANAKOTY MOODELLYAR. | N. SUBRAHMANYAM, Esq. |
| The Hon'ble Mr. H. BRADLEY, I.C.S. | V. G. LYNN, Esq. |
| CHAS. SOWDEN, Esq. | The Hon'ble Mr. R. S. BENSON, I.C.S. |
| W. E. HOARE, Esq. | J. L. WALKER, Esq. |
| | M. R. RAMASAWMI SIVAN, Esq. |

It was proposed by The Hon'ble Mr. R. S. Benson, seconded by Mr. G. Narayanasawmi Chettyar and carried unanimously that The Hon'ble Mr. A. W. B. Higgins do take the Chair.

Government Grant.—The monthly allowance of Rs. 250 and the extra grants of Rs 1,000 have been received. A Budget Estimate for 1901—1902 was submitted in August last and the usual amount of Rs. 4,000 was sanctioned by the Government. *Vide* G. O. No. 750, dated 7th September, 1901. Financial.

Receipts and Expenditure.—The Receipt from various sources, viz., sales of seeds, plants, admission to Flower Show and Sundries amounted to Rs. 7,975-4-0, Members Subscription Rs. 1,886-4-0, Government Grant Rs. 4,000, making a total of Rs. 13,861-8-0. The expenditure by pay of establishment, purchase of seeds, plants and garden requisites; repairs to No. I. House and main walk, printing and sundries, amounted to Rs. 12,339-0-1, leaving a balance of Rs. 1,522-7-11. The accounts up to the end of the year 1901 were audited by Mr. Thos. Cronan.

Weather.—The weather during the year was an improvement on that of last year although the months of March, April and May were hot and dry, from that month onward there was a vast improvement; from the table given below it will be seen that the quantity of rain which fell was above the average though the greater portion of it fell in the latter half of the year.

Monthly Rain Report of Madras for 1901.

| Months. | Dates on which rain fell. | Inches and Cents. |
|-----------|---|-------------------|
| January | .. 10th, 13th, 22nd & 23rd | ·48 |
| February | .. 1st, 14th, 15th, 16th & 17th | 2·00 |
| March | .. Nil | Nil. |
| April | .. Nil | Nil. |
| May | .. 7th | ·07 |
| June | .. 15th, 16th, 17th, 18th & 27th | ·42 |
| July | .. 2nd, 3rd, 6th, 7th, 11th, 13th, 14th, 15th, 16th, 18th, 21st, 22nd, 26th, 27th & 28th. | 5·44 |
| August | .. 2nd, 3rd, 5th, 6th, 11th, 12th, 14th, 15th, 16th, 19th, 21st, 23rd & 30th | 8·93 |
| September | .. 1st, 8th, 12th, 20th, 23rd, 28th, 29th & 30th.. | 4·02 |
| October | .. 1st, 3rd, 4th, 5th, 7th, 11th, 12th, 27th, 28th & 31st | 7·08 |
| November | .. 1st, 3rd, 4th, 5th, 6th, 7th, 8th, 9th, 10th, 11th, 12th, 17th, 18th, 29th & 30th .. | 14·97 |
| December | .. 1st, 2nd, 8th, 9th, 10th & 11th .. | 12·81 |
| | Rain days 82 Total.. | 56·22 |

Water Supply.—Our supply for both gardens was as usual drawn from the Red Hills. There was a marked decrease in the latter half of the year, owing to a plentiful supply of rain. The total quantity consumed by both gardens amounted to 4,663,000 gallons at a cost of Rs. 518-1-9 showing a decrease of 1,008,400 gallons and Rs. 112-6-4.

Table showing how much water has been consumed each month.

| Months. | Ornamental Gardens. | Nursery Gardens. | Total Gallons. |
|------------------|---------------------|------------------|----------------|
| January | 298,700 | 147,400 | 446,100 |
| February | 283,200 | 120,800 | 404,000 |
| March | 359,100 | 166,700 | 525,800 |
| April | 598,200 | 243,200 | 841,400 |
| May | 503,800 | 266,900 | 770,700 |
| June | 209,700 | 121,300 | 331,000 |
| July | 129,600 | 174,500 | 304,100 |
| August | nil | 176,100 | 176,100 |
| September | 168,000 | 105,400 | 273,400 |
| October | 135,500 | 109,800 | 245,300 |
| November | 88,500 | 68,800 | 157,300 |
| December | 109,400 | 78,400 | 187,800 |
| Total gallons .. | 2,883,700 | 1,779,300 | 4,663,000 |

Library.—During the year, the undermentioned books were bound and placed in the Society's library.

Gardeners Chronicle, Vol. XXVII and XXVIII.
 Curtis's Botanic Magazine, Vol. LVI.
 West Indian Bulletin, Vol. I.
 The Tropical Agriculturist, Vol. XIX.
 Indian Forester, Vol. XXVI.
 The Queensland Agricultural Journal, Vols. V and VI.
 Experiment Station Record, Vol. X.
 Journal of the Royal Horticultural Society, Vol XXI. and XXII.
 Diseases of plants (bought,) by George Massie, F.L.S.

Exchange.—In the course of the year under review we had the opportunity of sending out seed and plants to several of our correspondents, Botanic Gardens, etc., named below and in exchange seeds and plants were received for experiment from these gardens:—

| | |
|-------------------------|---|
| Agra... | ...The Superintendent, Taj Gardens. |
| Allahabad | ...The Superintendent, Government Gardens, Kushroobagh, N.-W.P. |
| Bangalore | ...The Superintendent, Lal Bagh Gardens. |
| Baroda | ...The Superintendent, State Gardens. |
| Bengal | .. The Conservator of Forests. |
| Birur | ...L. E. Kirwan, Esq. |
| Bombay | ...The Superintendent, Victoria Gardens. |
| Brisbane | ...The Director, Botanic Department. |
| Buenos Ayres | ...The Director, Botanic Gardens, Argentine Republic. |
| Calcutta | { The Superintendent, Royal Botanic Gardens. The Secretary, Agri-Horticultural Society of India. The Secretary, Cossipore Horticultural Society. |
| California University.. | College of Agriculture. |
| Cambridge | ...The Director, Botanic Gardens. |
| Cawnpore | ...The Director, Department of Agricultural and Commerce. |
| Coonoor | ...T. J. Ferguson, Esq., and Charles Grey, Esq. |
| Dar-es-Salam | ...Private Secretary to the Governor, German East Africa. |
| Darjeeling | ...The Conservator of Forests. |
| Devonshire | .. J. Haskings, Esq. |
| Durbangah | ...The Superintendent, Raj Gardens. |
| Germany | ...The Director Braunschweig Botanischer Gar- tenin. |
| Ghorpuri (Bombay) | ...The Director, Botanic Gardens. |
| Gwalior | ...The Superintendent, State Gardens. |
| Hong Kong | ...The Superintendent, Botanic Gardens. |
| Italy | ...Thro' R. B. Michell, Esq. |
| Jamaica | ...The Director, Botanic Department. |
| Kew | ...The Director, Royal Gardens. |
| Karachi | ...The Superintendent, Municipal Gardens. |
| Krakowie | ...The Director, Botanic Gardens. |
| Kumaon | ...The Director, Botanic Gardens. |

| | |
|------------------|--|
| Lahore | ...The Superintendent, Agri-Horticultural Gardens. |
| Lucknow | ...The Superintendent, Agri-Horticultural Gardens. |
| Madagascar | ...The Director of Agriculture. |
| Malabar | ...The District Forest Officer. |
| Madras | Conductor G. Williams of Madras Arsenal; Superintendent of Robinson Park; Superintendent of People's Park; J. G. Smith, Esq; Locomotive Superintendent, Perambur Works, Madras Railway; H. E. Houghton, Esq; Hon'ble Mr. A. T. Arundel; Hon'ble Mr. H. M. Winterbotham; The Hon'ble Mr. A. W. B. Higgins, N. Subramanyam, Esq; Chas. Sowden, Esq; Captain R. Hollingsworth; Colonel The Hon'ble Sir George Moore, Kt., C.I.E; E. A. S. Nicholas, Esq; Mrs. Mitchell; Superintendent, Guindy Park. |
| Meppadi | ...W. Mackinley, Esq. |
| Morvi | ...The Director, Botanic Gardens. |
| Mozambique | ...Ed. Luja, Esq. |
| Nagpur | ...The Superintendent, Agri-Horticultural Gardens |
| Natal | ...The Director, Botanic Gardens. |
| North Arcot | ...The District Forest Officer. |
| Oodeypore | ...T. H. Storey, Esq. |
| Ootacamund | ...G. W. Wright, Esq. and the Curator, Botanic Gardens. |
| Ottawa | ...The Director, Central Experimental Farm. |
| Paris | ...The Director, Public Gardens and Museum. |
| Paradinaya | ...The Director, Royal Botanic Gardens. |
| Pondicherry | ...The Director, Botanic Gardens. |
| Poona | ...The Director, Empress Botanic Gardens. |
| Port Blair | ...E. H. Mann, Esq. |
| Rangoon | ...W. R. Hillier, Esq., Upper Burma. |
| Saharanpur | ...The Superintendent, Government Botanic Gardens. |
| Saidapet | ...The Principal, Agricultural College. |
| Saint Petersburg | ...The Director, Imperial Gardens. |
| Sappora | ...The Director, Botanic Gardens. |
| Salem | ...The District Forest Officer. |
| Singapore | ...The Curator, Botanic Gardens. |
| Sivaganga | ...The Manager, The Lessees. |
| South Arcot | ...The District Forest Officer. |
| Tokyo | ...The Director, Botanic Gardens. |
| Trivandrum | ...The Director, Public Gardens and Museum. |
| Yercaud | ...Mrs. Foulkes. |
| Zanzibar | ...The Director, Department of Agriculture. |
| Zurich | ...The Director, Botanic Gardens. |

Flower-Show.—The Flower-Show was held on the last Saturday in February. We made a departure from our usual custom by holding the Show in the Nursery Gardens. This was a decided improvement on former years, and saved the Ornamental Gardens from being damaged.

In classes 1, 2, and 4 the Exhibits were very good. Class

3, cut flowers were poor. 5, 6, and 7 vegetables and fruits were not so good as in former years, owing no doubt to the drought.

The attendance was hardly up to the average. The gate money amounted to Rs. 987-12-0, which was also below the average.

Improvement of the Gardens.—The main walk from the East to South gate was picked up, levelled and new gravel laid down. This walk is now in good condition and should remain so far another 5 to 7 years. No. I Plant House was re-roofed, several branches of the *Parkia* overhanging the house were cut off to allow more light and air; and the plants around the house were re-arranged to harmonise with the surroundings. The flower beds by the main gate were re-arranged. About 30' of the *Bauhinia* tunnel was cut away and shrubs in the border behind were shortened back to 6'. This opened up a long view of the Palm ground from the main walk.

Seeds, plants, etc., distributed to Members, Botanic
Gardens, and sold during 1901.

| (To Members.) | | (To Botanic Gardens.) | |
|-----------------------------------|------------|---------------------------|--------------|
| Flower seeds, packets | ... 1,357 | Plants | ... 517 |
| Vegetable seeds do. | ... 1,604 | Seeds, packets | ... 622 |
| Hurrialee grass | ... 1 lb. | Victoria regia seeds | ... 48 |
| Swietenia mahagoni | ... 14 oz. | Do. plants | ... 10 |
| Nutmeg plants | ... 17 | Nipa fruticans do. | ... 4 |
| Durian do. | ... 12 | Golden cocoanut seed | ... 1 |
| Bamboo suckers | ... 40 | | |
| Vanilla cuttings | ... 16 | (Sold) | |
| Agave americana | ... 10 | Flower seeds, packets | ... 724 |
| Cuttings of Coleus, Hibiscus | | Vegetable seeds do. | ... 469 |
| Bougainvillea, Alternanthera etc. | ... 408 | Inga seeds | 35 lbs. |
| Climbers | ... 244 | Lucerne seed | 34 lb. 6 oz. |
| Economic plants | ... 281 | Grass seed | 20 lb. 7 oz. |
| Fruit trees | ... 31 | Indigofera tinctoria seed | 73 lb. |
| Victoria regia | ... 16 | Tectona grandis seed | 40 lb. |
| Golden cocoanuts | ... 7 | Grevillea robusta seed | 3 lb. 2 oz. |
| Canna shoots | ... 227 | Sunflower seed | ... 1 lb. |
| Crotons | ... 92 | New Orleans cotton seed | ... 5 lb. |
| Caladiums | ... 56 | Cocoanut seeds | ... 95 |
| Hibiscus | ... 111 | Other seeds | ... 6 lb. |
| Ferns | ... 116 | Ichthemic guano | 529 lb. |
| Roses | ... 12 | Leaf mould, cartload | ... 18½ |
| Palms | ... 300 | Arrowroot | ... 19 lb. |
| Other plants | ... 1,391 | Hurrialee grass roots | 5,600 lb. |
| Garden catalogues | ... 2 | Cuscus do. | ... 200 |
| Paspalum dilatatum seed | ... 1 oz. | Guinea do. | ... 1,100 |
| Bambusa Tulda seed | ... 3 oz. | Paspalum dilatatum roots | 270 |
| | | Toddalia aculeata bark | ... 1 lb. |

| | | | | |
|--------------------------|--------|------------------------------|-----|-------|
| Casuarina plants | 25,530 | Roses | ... | 238 |
| Agave rigida ... | 427 | Palms | ... | 233 |
| Furcraea | 300 | Other plants | ... | 3,113 |
| Swietenia mahagoni | 50 | Loan of plants | ... | 1,106 |
| Polyalthia longifolia | 60 | Sapodilla fruits | ... | 24 |
| Crotons | 152 | Parcels of gums and resins.. | 38 | |
| Cannas, orchid flowering | 56 | Garden catalogues | ... | 11 |
| Ferns | 135 | Jaffreys Hints on Gardening. | 4 | |
| Do. spores, packets | 35 | Cut flowers, button-holes, | | |
| Durian plants | 12 | bouquets, sprays, wreaths, | | |
| Mango grafts | 256 | crosses, etc. | ... | 501 |

Nursery Stock.—Work in this particular section has been going steadily forward. Several plants difficult to cultivate have been propagated by cuttings and layers, and we have now on hand a large stock of trees, shrubs and other pot plants.

| | | |
|----------------------------------|-----|--------|
| Trees and foliage plants in pots | ... | 12,520 |
| Do. do. in seed pans | ... | 1,500 |
| Do. do. in open beds | ... | 5,000 |
| Palms in pots | ... | 2,500 |
| Do. in pans | ... | 2,840 |

Fibre plants.

| | | |
|--------------------------------|-----|--------|
| Agave rigida var. Sisalana | ... | 20,000 |
| Furcraea gigantea | ... | 10,000 |
| Sansevieria | ... | 2,000 |
| Rhea | ... | 100 |
| Villebrunea integrifolia (new) | ... | 6 |

Plants raised from seeds.

| | | |
|-------------------------------|-----|-------|
| received from foreign gardens | ... | 1,600 |
|-------------------------------|-----|-------|

NOTES BY THE SUPERINTENDENT.

Congea tomentosa var. azurea.—This beautiful trailing plant has found a genial spot for itself by the Fernery; it flowered more freely this year than it did last, and its delicate mauve bracts, make it a striking feature. We have succeeded in raising plants from cuttings and layers, but the demand for it has been so great that we have been unable to keep up a supply, already we have several members waiting for them.

Clavija reideliana.—Our only specimen of this rare South American plant was ill placed under the shade of the Kigelia tree and it was decided to attempt to lift it, this operation was successfully carried out in October, it was planted on the west side of the gardens close to the water tower. It appears to appreciate the change as already it has thrown out two healthy growths.

Bauhinia variegata var. candida.—One of the best of the Bauhinias and should be included in every collection. Its almost white flowers are borne in masses upon the whole

length of the branch and reminds one of nothing so much as the Azalea or single Rhododendron at home, it is easily grown and does not require much attention.

Calicarpa lanata.—Our present specimen received from W. India was planted out along the margin of the main walk close to the *Kigelia pinnata*. It is looking very healthy, and flowered for the first time with us this year.

Acalypha hispida.—In 1899 we received a plant of this handsome *Acalypha* from Mr. H. Thorn, Durbangah. It has done well with us and this year, we have propagated a large number and distributed several to Members and others.

Papyrus antiquorum.—Mr. Storey of Udaipur, kindly sent us several plants of this ornamental sedge. They were planted in water in several parts of the gardens, but the one planted at the south end of the Vizianagram tank was the only one to succeed. It has done well and is now a clump 4' long with growths 6' high; this is the plant from which the ancient Egyptians manufactured their paper. It is found wild on the banks of the Nile and also in the warmer parts of Italy.

Bignonia magnifica.—I do not think one can be far wrong in stating this to be one of the best of the Bignonias. Its large open trumpet-shaped flowers of a soft magenta with the inside of the throat shaded almost to white with several distinct lines verging towards the centre like the Pansy are arranged in large trusses on the young growth.

Oxandra viragata, Lancewood.—Planted close to the office, does not make much progress although the appearance of the plant is healthy.

Cinnamomum camphora.—Since writing about these plants in my last report they have made good progress and at the time of writing are flowering. An attempt to propagate them in quantity will be made this year.

Eucalyptus citriodora.—The specimen planted out in the coconut tope border is about 6 years old and is now 25' high. It is not healthy and its growth is very weak. A larger specimen at Guindy Park is looking much better and bore a profusion of flowers last October.

Couroupita guianensis, Cannon ball tree.—Native of British Guiana but found cultivated in several parts of India notably Pondicherry. It was from the latter place we received our present specimen about 1870. After been kept in a pot for some time it was finally planted out in the coconut tope border. It has developed into a tree about 20' high and flowered for

the first time with us in July last. Its soft, pink sweet scented and peculiar shaped flowers are borne in large inflorescence which spring from the trunk of the tree. The flower is highly prized by the Hindus for the decoration of their temples.

Theobroma cacao-Cocoa of commerce.—The specimen in the border at the south end of No. 2 House is growing well. It is now 8 feet high. The specimen at Guindy Park growing in a red soil flowers and fruits freely every year. We were fortunate in raising a few plants from seeds saved from the Guindy Park plant.

Ptychoraphis augusta.—A rare palm with us is planted out in the Palmetum and is making very healthy growth.

Latana rubra and **Golden cocoanut** palms appear to be very susceptible to the attack of the Rhinoceros beetle as more beetles are caught in these two palms than any other.

Pritchardia pacifica.—Has done remarkably well in the centre of the tank in No. 2 House about 2" of its pot stands in the water.

Maximiliana regia.—This handsome giant palm is growing well and promises to make a fine specimen in a few years.

Progress of Sisal Hemp plantation.—The Sisal hemp plants, planted out in November look well. We trust it will be a certain source of revenue, when they commence to flower. We had several demands for the plant, and Government had 2,000 plants from us last year. We have at present on hand 20,000 small plants and bulbils.

Victoria regia, Giant Water lily.—The large Victoria tank was dried off in June last and all the bad material removed and replaced with a good mixture of red soil, garden soil, leaf mould and a quantity of bull manure. The seedling plants have not developed such large leaves probably owing to their being young. They have however improved very much since we have been able to keep the tank supplied with water from the irrigation channel.

New Indian fodder Paspalum dilatatum.—Our experience so far has not convinced us that this is to be the future fodder of India. We have raised a small stock of it and have distributed a number of plants, and also seeds to various people throughout the Presidency, on the Hills as well as the plains and from no one have I received a favourable report. They all report on it as requiring plenty of irrigation when it produces nice young growths; our plants when left to their own care produce short, hard stunted growth; when watered it produces

a nice succulent growth and flowers freely, but the seeds which are produced in abundance appear barren and useless.

Cyclone.—Periodically we are visited by cyclones of greater or less severity, perhaps the most severe one on record in this office, is the one that occurred in 1879 when considerable damage was done to the trees in the gardens. Last November we were treated to one, but not of so severe a nature as the former. It commenced on Saturday evening with a few sharp showers and lasted until Tuesday. The height of the storm was reached about 2 P.M. on Monday; we had very heavy rain with but little wind. Below I give a short table showing the quantity of rain which fell during the storm, from 11 A.M. to 2-15 P.M. on the 9th December 1901, 3.50 rain fell and from 2-15 P.M. to 5-15 on the same evening 3.80

We were fortunate in only losing two trees, *Berrya ammonilla* and *Manihot glaziovii*, both were snapped off; the former five feet, and the latter, a few inches from the ground. The top branches of a *Spathodea campanulata* were snapped off and in its descent crashed into a fine specimen of *Filicium decipiens* completely spoiling it. Its branches have had to be shortened back to within 18" of the trunk. Just now they are furnished with a thick clump of green healthy growth. A large limb was snapped off the Teak tree by the office. A large branch of *Hibiscus tortuosus* growing in the border behind the office fell and smashed in a native's hut; but no other damage was done.

The roof of the Aroid house was in a bad condition and part of it gave away. It has since been temporarily repaired.

The Victoria Tank was far above its usual level and the rustic bridge was loosed from its moorings and floated out into mid-stream. The ground from the main gate up to the large Mahogany was a foot under water for a whole day. Contrary to expectations, I am glad to say that we did not lose any plants through their having been inundated. This was owing probably to the bright weather experienced immediately after the storm had passed and also to the nature of the soil which is inclined to be sandy. All the tanks of Madras were filled and so have assured a supply of water up to April.

New Plants.—We give a complete list of plants new to the gardens, some have been raised from seeds and others were received as young plants. We take this opportunity of thanking our many contributors for their valuable contributions, and would like to call their attention to the fact, that we are only too pleased at any time to send them plants from these gardens in exchange.

Nymphaceæ.

Euryale ferox.
Nymphæa stellata.

Pittosporæ.

Pittosporum viridiflorum.

Portulacæ.

Portulacaria afra.

Dipterocarpeæ.

Vateria indica.

Malvaceæ.

Hibiscus Cameroni.
 Do. cuttings, 3 kinds.
 Do. ecru.
 Do. hirtus.
 Do. Moscheutos.

Sterculiaceæ.

Pterospermum acerifolium.

Malpighiaceæ.

Malpighia coccifera.

Ampelideæ.

Leca sambeiciana.

Sapindaceæ.

Dodonæa madagascariensis.

Anacardiaceæ.

Rhus succedanea.

Leguminosæ.

Afzelia madagascariensis.
Albizzia odoratissima.
Bauhinia variabilis.
 Do. red flowered.
Machærium tipu.
Pithecolobium angulatum.
 Do. saman var. folis
 aurea.

Rosaceæ.

Parinarium excelsum.

Myrtaceæ.

Eugenia malaccensis.

Passifloreæ.

Carica papaya. (large fruited).

Cactææ.

Cereus nepalensis.
Echinopsis multiflorus.
Mamillaria multiceps.

Goodenovieæ.

Scævola Kœnigii.
Tupidanthus calyptratus.

Rubiaceæ.

Oxyanthus natalensis.

Oleaceæ.

Jasminum humile.
 Do pubescens.
Olea dioica.

Apocynaceæ.

Tabernæmontana usambarensis.

Asclepiadeæ.

Stapelia grandiflora.
 Do. hispida.
 Do. Lonspurcata.
 Do. Marmarata.
 Do. Quinquiangulari.

Loganiaceæ.

Buddleia Lindleyana.
Strychnos spinosa.

Convolvulaceæ.

Ipomæa palmata.
Porana racemosa.

Solanaceæ.

Physalis Francheti.

Bignoniaceæ.

Bignonia argyrea violascens.
 Do. Cherere.
 Do. incarnata.
 Do. magnifica.
Tecoma Smithii.
 Do. stans "double."

Acanthuceæ.

Asystasia chelonoides.
Jacobinia suberecta.
Thunbergia Harrisi.
Strobilanthes Dyerii.

Verbenaceæ.

Duranta macrophylla.

Labiatae.

Coleus Coppini.
Leonurus tartaricus.

Nyctagineae.

Bougainvillea sanderiana.

Polygonaceae.

Rumex pulchra.

Laurineae.

Persea gratissima.

Euphorbiaceae.

Baliospermum axillare.
Euphorbia Royleana.
Trewia nudiflora.

Urticaceae.

Artocarpus hirsuta.
Villebrunnea integrifolia.

Coniferae.

Salisburia adiantifolia.

Cycadaceae.

Bowenia spectabilis serrulata.
Macrozamia montperriensis.

Scitamineae.

Curcuma comosa.
 Do. ferruginea.
Longoza {
Sakamalaobe { sp. of *Amomum*.

Amaryllideae.

Agave cebeana.
 Do. ixtilis.
Amaryllis sp. Brazil.
 Do. vittata.
Crinum brachynema.
 Do. superbum.
 Do. Asiaticum variegatum.
Hymenocallis macrostiphana.

Liliaceae.

Aloe perfoliata.
Asparagus sprengeri.
Chlorophyton vivipara.
Dracæna draco ?
 Do. Godseffiana.
 Do. Hookeriana.
 Do. Sanderiana.
Myrsiphyllum asparagoides.

Palmeae.

Bentinckia nicobarica.
Caryota Rumphii.
Chamærophs excelsa.
 Do. Fortunii.
Cocos australis.
 Do. schizophylla.
 Do. Weddelliana.
Corypha elata.
Hyphæne Thebaica.
Howea forsteriana.
Kentia Belmoreana.
 Do. forsteriana.
Martinezia caryotæfolia.
Oreodoxa oleracea ?
Phœnix rupicola.
Pseudophœnix Sargentii.
Ptychoraphis augusta.
Rhopaloblasta hexandra.
Sabal havanense.
 Do. minor.
Thrinax altissima.
 Do. elegans.
 Do. Parviflora.
Washingtonia filifera.

Pandaneae.

Pandanus Javanicus var.
 Do. pacificus.

Aroideae.

Anthurium sp.
Pothos argyreans.
Richardia africana (*Arum* lily).

Cyperaceae.

Cyperus antiquorum.

Gramineae.

Arundo madagascariensis.
 Do. mauritiana.
Ophiopogon juburam variegatum.
Pennisetum cenchroides var. echi-
 noides.
 Do. macrourum.
Poa trivialis var. albo vittata.

Filices.

Adiantum Collisii.
 Do. mundulum.
 Do. reginae.
 Do. rhodophyllum.
Nephrolepis volubilis.

The following is a list of economic and ornamental trees and shrubs in pots in the Nursery ready for planting out :—

Tabernæmontana usambarensis.
Eugenia malaccensis.
Ficus prolixa.
Strophanthus scandens.
Bauhinia grandiflora.
Bauhinia krugerii.
Bauhinia carroni.
Erythrina crista galli.
Schinus mollis.
Bursaria spinosa.
Wrightia coccinea.
Ligustrum Walkerii.
Ardisia neriifolia.
Spathalea simplex.
Triphlaris surinamensis.
Cassia javanica.
Rhopalocarpus lucidus.
Solanum arboreum.
Moluccana bambusioides.
Oxytenanthera sp.
Calpedenia casiogyne.
Acacia Maidenii.
Nephelium tomentosum.

Ochroma lagopus.
Macharium typha.
Spondiàs dulce.
Amoora rohituha.
Hardwickia binata.
Psidium cattleyanum.
Ilex paraguayensis.
Hydnocarpus inebrians.
Lonchocarpus formosianum.
Uvaria odorata.
Sterculia lurida.
Sterculia heterophylla.
Albizzia pruinosa.
Do. sphærocarpa.
Spathodea stipulata.
Pithecolobium polycephalum.
Cauliflorum.
Myrstica moschata.
Cassia grandis.
Sterculia acuminata.
Ochrosia acuminata.
Ficus Roxburghii.
Canarium commune.

Committee Members.—During the year under review Mr. E. B. Powell resigned and Mr. J. L. Walker was elected in his place, Mr. H. E. Houghton was made Honorary Treasurer

The Chairman and Honorary Secretary Col. the Hon'ble Sir George Moore, *Kt*, C.I.E., and Dr. A. G. Bourne, F.R.S., continued to hold the office of Chairman and Honorary Secretary respectively.

Ex-officio Member.—The Hon'ble Mr. H. Bradley held the office of Ex-officio member for the whole year.

Subscribing Members.—During the year 27 members joined the Society, 10 resigned and 4 were on the absentee list, the total number on 31st December, 1901, were 110 (82 A class and 28 B class).

The following gentlemen were elected as members of the Committee for the ensuing year :—

The Hon'ble Mr. R. S. Benson.
 Narayanasamy Chettyar, Esq.
 A. L. Hannay, Esq.
 H. E. Houghton, Esq.
 J. L. Walker, Esq.
 Col. The Hon. Sir George Moore.
 N. Subramanyam, Esq.
 C. Sowden, Esq.

The Venerable Archdeacon A. A. Williams.
 The Hon'ble Mr. H. Bradley.
 A. Dhanakoti Mudelliar, Esq.
 W. H. Oakes, Esq.
 The Hon'ble Mr. Justice Boddam, Esq.

Proposed by Mr. Subramanyam, seconded by Mr. Dhanakoti Mudelliar, and carried unanimously that the Report now read be adopted, printed and published.

Proposed by Mr. N. Subramanyam, seconded by Mr. G. Narayanasamy Chettyar, and carried unanimously that Mr. J. L. Walker be invited to discharge the duties of Honorary Secretary.

Proposed by The Hon'ble R. S. Benson, seconded by Mr. Narayanasamy Chettyar, and carried unanimously that a cordial vote of thanks be accorded to Dr. A. G. Bourne for his services as Honorary Secretary during the year.

The Meeting terminated with a vote of thanks to the Chair.

Members of the Society on 31st December, 1901.

President :

His Excellency The Right Hon'ble Lord Ampthill.

Honorary Members :

L. A. Bernays, Esq. | General J. P. Ferrier.
Sir J. D. Hooker, C.B., etc.

Extraordinary Members :

| | |
|---------------------------------|-------------------------------------|
| Benson, Lieut-Genl. R. | Steavenson, Joseph, Esq., B.A. |
| Bidie, Surgeon-Genl. G., C.I.E. | Dhanakoti Mudelliar, Rao Bahadur A. |
| Cox, Colonel H. W. H. | Whiteside, W. S., Esq. |
| Duff, Sir M. E. Grant, G.C.S.I. | West, Henry C., Esq. |
| Lawson, Sir Charles A. | |

Subscribing Members (A Class) :

| | |
|---|---|
| Adam, John, Esq. | Buckley, Ll. E., Esq., I.C.S. |
| Adams, Miss Violet, M.D. | Coster, R. J., Esq. |
| Ampthill, Lord, His Excellency The Right Hon'ble. | Cowie, D. W. G., Esq., I.C.S. |
| Atkinson, The Hon'ble Mr. J. N., I.C.S. | Davies, The Hon'ble Mr. Justice J. A., I.C.S. |
| Barclay, E., Esq. | Daivasikamani Pillay, V., Esq., B.C.E. |
| Batten, The Hon'ble Mr. J. K. | Ferguson, T. J., Esq. |
| Beauchamp, H. K., Esq. | Formby, Lieut-Col. R. F. R. |
| Benson, The Hon'ble Mr. Justice R. S., I.C.S. | Frost, T. R., Esq. |
| Bilderbeck, J. B., Esq. | Gajapathy Row, Maharaja G. N., Sir, Kt., C.I.E. |
| Bobbili, H. H. The Maharaja, Kt., C.I.E. | Hannick, The Hon'ble Mr. M., C.I.E., I.C.S. |
| Boddam, The Hon. Mr. Justice H. T. | Hannay, A. L., I.C.S. |
| Bourne, Dr. A.G., F.R.S. | Henderson, Miss. |
| Bradley, The Hon. Mr. H., I.C.S. | Higgins, The Hon'ble Mr. A. W. B., I.C.S. |
| Branson, Reddy, Esq. | |

Higgs, C. J., Esq.
 Houghton, H. E., Esq.
 Jones, R. Ll., Esq.
 Keess, W., Esq.
 Kurupam, Rajah of.
 Lynn, V. G., Esq.
 Menzies, R. T., Esq.
 Miller, A. P., Esq.
 Miller, S. C., Esq.
 Moore, Col. The Hon'ble Sir
 George M. J., *Kt.*, C.I.E.
 Mudukrishna Yachandra Baha-
 dur, Rajah V.
 Nair, A. T. M., Esq.
 Napier, A. S., Esq.
 Narayanasamy Chettyar, G., Esq.
 Norton, The Hon. Mr. Eardley J.
 Oakes, A. W. D., Esq.
 Oakes, W. H., Esq.
 Ormerod, H., Esq.
 Orr, Sutherland, Esq.
 Parlakimidi, Rajah of.
 Pattabirama Iyer, C. R., Esq.
 Puddephatt, T. H., Esq.
 Ramakrishna Mudaliar, N., Esq.,
 Zemindar (Nellathore).
 Robertson, Major R., I.M.S.
 Rodgers, Fred. Esq.
 Romilly, George, Esq.
 Rosling, A. W., Esq.
 Runganatha Mudaliar, M., Esq.
 Sabapathy Iyah, C., Esq.
 Scott, E., Esq., I.C.S.
 Sharp, J., The Rev.

Sim, The Hon'ble Mr. H. A.,
 I.C.S.
 Simon, F. T., Esq.
 Smith, C. Michie, Esq.
 Smith, J. G., Esq.
 Sowden, Chas., Esq.
 Straker, C. H., Esq.
 Stuart, H. A., Esq. I.C.S.
 Subba Naidu, A., Esq.
 Subramanyam, N., Esq.
 Taylor, W., Esq.
 Thorburn, W. M., Esq.
 Thurston, Dr. Edgar.
 Travancore, H. H. The Maha-
 raja, G.C.M.G.
 Turner, W. A., Esq.
 Venkataramdoss Naidu, Esq.,
 Dewan of Pudukotah.

Wallis, The Hon'ble Mr. J. E. P.
 Walker, J. L., Esq.
 White, The Hon'ble Chief Justice
 Sir Charles Arnold.
 Whitehead, The Right Reverend
 H., D.D.
 Williams, The Venerable Arch-
 deacon A. A.
 Winterbotham, The Hon'ble Mr.
 H. M., I.C.S.
 Young, J. M., Mrs.
 Zemindar of Ettypuram.
 Do. Ootakuli.
 Do. Polavaram.

B Class Members.

Bhakyam Mudaliar, R.A., Esq.
 Burns, C., Miss.
 East, H. R., Esq.
 Giffard, Captain G. G., I.M.S.
 Gilchrist, R., Brigdr.-General.
 Goodrich, W. J., Esq.
 Hall, A. A., Esq.
 Hoare, W. E., Esq.
 Lakshmi Varahu Iyer, C. R., Esq.
 Lawson, A. E., Esq.
 Maitland, Lt.-Col. J., I.M.S.
 Michell, R. B., Esq.
 Nallaswami Pillay, J. M., Esq.
 Pritchard, S. M., Esq.

Ramaswami Sivan, N. R., Esq.
 Robertson, W. A., Esq.
 Rungacharriar, S., Esq.
 St. Leger, W. D., Esq.
 Sheriff Khan Bahadur Mahomed.
 Sivaswami Iyer, P. S., Esq.
 Skeen, H. G., Esq.
 Sreenivasa Mudaliar, K. G., Esq.
 Stradiot, E., Esq.
 Sturmer, Col. A. J., I.M.S.
 Subramanya Iyer, A., Esq.
 Thompson, The Hon'ble Mr. J.
 I.C.S.
 VanGeyzel, Lt.-Col. J. L., I.M.S.

Particulars of Expenses.

| | RS. | A. | P. |
|---|--------|----|----|
| Wages of Gardeners and Office Staff | 4,328 | 13 | 2 |
| Do. Coolies engaged | 1,176 | 9 | 6 |
| Rail, Shipping, Packing Charges and Sundries | 964 | 11 | 8 |
| Seeds | 848 | 13 | 9 |
| Plants | 1,027 | 3 | 5 |
| Garden Requisites | 334 | 6 | 6 |
| Pots | 224 | 0 | 5 |
| Manure, Sand and Red Soil | 294 | 0 | 8 |
| Printing and Advertising | 331 | 4 | 4 |
| Books and Periodicals | 42 | 5 | 0 |
| Petty Repairs to Shed | 58 | 11 | 1 |
| Palm House and Circular Cistern | 368 | 3 | 0 |
| Red Hills Water-supply | 822 | 14 | 0 |
| Municipal Tax | 22 | 14 | 0 |
| Postages | 241 | 2 | 6 |
| Audit Fee | 85 | 0 | 0 |
| Sundries | 93 | 8 | 0 |
| Flower Show. | | | |
| Erection of Pandal | 70 | 14 | 3 |
| Printing and Advertising | 73 | 5 | 0 |
| Conveyance of Tents, Tables, etc. | 109 | 12 | 2 |
| Prizes and Medals | 637 | 0 | 0 |
| Sundries | 37 | 15 | 8 |
| Remuneration to Office, Police, etc. | 145 | 8 | 0 |
| Rupees .. | 12,339 | 0 | 1 |

MADRAS,)
May, 1902.)

THOS. CRONAN,
Auditor.

Financial Statement, 1901.

| RECEIPTS. | | | DISBURSEMENTS. | | |
|---|--------|-------|---|--------|-------|
| | RS. | A P. | | RS. | A P. |
| By Balance with Messrs. Binny & Co. on 31st December 1900 ... | 1,963 | 4 10 | To Particulars of Expenses appended ... | 12,339 | 0 1 |
| " Do. in hand, General Cash Rs. 644 0 0 | | | " Balance with Messrs. Binny & Co. on 31st December 1901 ... | 1,894 | 14 5 |
| " Do. do. Petty Cash " 70 13 10 | | | " Do. of General Cash ... | 35 | 4 0 |
| " Sale of Seeds and Flowers ... | 714 | 13 10 | " Do. of Petty Cash ... | 250 | 14 11 |
| " Do. Plants and Fruits ... | 2,137 | 3 3 | " Deficiency due by Devarajulu ... | *1,519 | 9 3 |
| " Do. Guano ... | 2,933 | 7 2 | " Government Grant for November and December 1901 realized in February 1902 ... | 500 | 0 0 |
| " Do. Sundries including Packing, Shipping and Rail charges ... | 73 | 2 0 | | | |
| " Subscription from Members ... | 1,516 | 6 9 | | | |
| " Sale of Admission Tickets for Flower Show ... | 1,886 | 4 0 | | | |
| " Government Grant ... | 987 | 12 0 | | | |
| " Do. (extra) ... | 3,000 | 0 0 | | | |
| " Interest on Floating account ... | 1,000 | 0 0 | | | |
| | 27 | 4 10 | | | |
| Rupees . | 16,539 | 10 8 | Rupees ... | 16,539 | 10 8 |

MADRAS, }
1st May, 1902.

THOS. CRONAN,
Auditor.

* (c) of this sum we have Rs. 353-6-2 his security and a further payment of Rs. 600 is secured by deeds of landed property.

Proceedings of the Agri-Horticultural Society, Madras, for January, February and March 1902.

A Meeting of the Committee was held on the 3rd February when the following members were present:—

| | |
|---|--|
| Col. The Hon'ble Sir GEORGE MOORE, <i>Kt.</i> , C.I.E., <i>Chair-</i> <i>man.</i> | N. NARAYANASAWMI CHETTIAR, Esq. |
| V. G. LYNN, Esq. | A. L. HANNAY, Esq., I.C.S. |
| The Ven'ble Archdeacon ACHESON A. WILLIAMS. | H. E. HOUGHTON, Esq., <i>Ag.</i> <i>Hon. Secretary.</i> |
| The Hon'ble Mr. Justice H. T. BODDAM. | CHAS. SOWDEN, Esq. N. SUBRAHMANYAM, Esq. |

Read letter from Dr A. G. Bourne tendering his resignation as Honorary Secretary ; owing to press of work.

Proposed to ask Mr. J. L. Walker to succeed Dr. A G. Bourne as Honorary Secretary.

Resolution.—The question of definitely fixing the sites to be occupied by Messrs. Spencer and Oakes was decided in favour of the latter. The Committee remarking that in future years notices should be issued to all Firms at the same time so that each may have an equal chance of selecting their ground.

The following plants were on view as being new or rare to the gardens.

| | |
|----------------------------|----------------------|
| Dracæna stricta. | Smilax asparagoides. |
| Phœnicophorum sechellarum. | Pinanga globosa. |
| Cocos australis. | |

A Meeting of the Committee was held in the Gardens on Monday, the 10th March, when the following members were present:—

The Hon'ble Mr. Justice H. T. BODDAM, *in the Chair.*
The Ven'ble Archdeacon A. A. WILLIAMS.
J. L. WALKER, Esq., *Honorary Secretary.*
H. E. HOUGHTON, Esq., *Honorary Treasurer.*
N. SUBRAHMANYAM, Esq.
G. NARAYANASAWMI CHETTIAR, Esq.

Tea Competition.—It was decided that no medal be awarded, as there were only 4 competitors, although there were 6 exhibits.

The Flower Show accounts presented by the Treasurer were read and passed.

It was resolved to ask General Gilchrist to accept office on the Committee, in place of Dr. A. G. Bourne on the absentee list.

General Repairs.—Sanction was given for estimates to be drawn up for the repairs of the Office, Main Gate and Fern House; (the latter to have a wire mesh roof,) these to be brought up at a future Meeting.

It was proposed to ask A. L. Hannay, Esq., I.C.S., to judge. H. E. Houghton, Esq., Rare and New plants assisted by Mr. B. F. Cavanagh.

Resolved, that in future the Committee will meet at 7 A.M. and not 7-30 A.M. as has been the custom.

The acceptance of Office by J. L. Walker, Esq., was recorded.

A Meeting of the Committee was held in the Gardens on Friday, the 21st March, 1902, when the following members were present:—

The Hon'ble Mr. A. W. B. HIGGENS, I.C.S., *in the Chair*.

Hon'ble Mr. Justice R. S. BENSON, I.C.S.

The Ven'ble Archdeacon A. A. WILLIAMS.

V. G. LYNN, Esq.

J. L. WALKER, Esq., *Honorary Secretary*.

G. NARAYANASAWMI CHETTIAR, Esq.

N. SUBRAHMANYAM, Esq.

Rules and Regulations.—It was proposed by Mr. J. L. Walker, seconded by Mr. V. G. Lynn and carried unanimously that Rule 15 shall be read as follows:—

“The Committee shall consist of eleven members and a Secretary and Treasurer, three members exclusive of the Secretary to form a quorum for the transaction of business.”

The following contributions were made to the Garden Library, during January, February and March 1902:—

Indian Forester, Vol. XXVIII, Nos. 1, 2 and 3 for January, February and March 1902.

Tropical Agriculturist, Vol. XXI, Nos. 7, 8 and 9 for January, February and March 1902.

Planting Opinion, Vol. VII, Nos. 1 to 4 for January, Nos. 5 to 8 for February, and Nos. 9 to 13 for March 1902.

Agricultural Ledger on the utilisation of upland Barren Lands, N.-W. Provinces and Oudh, by W. H. Moreland, Esq.

Preliminary List of Vernacular names of Trees, Shrubs and Woody Climbers by the Hon'ble Mr. A. W. B. Higgens, I.C.S.

Bulletin No. 46, Vol. II on the Sugarcanes of Madras by C. Benson, Esq., M.R.A.C.

Central Provinces Bulletin No. 5 on the utilisation of nightsoil as manure by Mr. R. S. Joshi, Nagpur.

Proceedings and Journal of the Agri-Horticultural Society of India for July to September and for October to December 1901.

Report on the Department of Land Records and Agriculture, Burma, for 1900-1901.

Report on the operations of the Department of Land Records and Agriculture, Madras Presidency, for 1900-1901.

Annual Report on the Government Cinchona Plantation and Factory in Bengal for 1900-1901—by Major D. Prain, M.D., LL.D., I.M.S.

Crop experiments by F. B. Young, Esq., Bombay Presidency, for 1899-1900 and 1900-1901.

Curtis's Botanical Magazine, Vol. LVIII, Nos. 685, 686 and 687 for January, February and March 1902. (Purchased.)

Kew Bulletin on Additions received for the Library during 1901.

Journal of the Royal Horticultural Society by the Rev. W. Wilks, M.A., Vol. XXVI, 1901, Parts 2 and 3.

Semi-Annual Report of Schimmel & Co. (Fritzsche Brothers), Miltitz, New York, for October 1901.

Experiment Station Record, Vol. XIII, No. 6, U. S. Department of Agriculture, Washington, Central Experimental Ottawa Farm Bulletin No. 38 on Soft Park for October 1901, by F. T. Shutt, Esq., M.A.

West Indian Bulletin, Vol. II, No. 4, Agricultural Bulletin of the Straits and Federated Malay States, Vol. I, No 5, for February 1902, by H. N. Ridley, Esq. M.A., F.L.S.

Jamaica Bulletin of the Botanical Department, Vol. IX, Parts 1 and 2, for January and February 1902, by William Fawcett, Esq., B.Sc., F.L.S.

Queensland Annual Report of the Department of Agriculture for 1900-1901.

Queensland Agricultural Journal for December 1901, Vol. IX, Part 6.

Jamaica Report on the cultivation of Pineapples, by Robt. Thomson, Esq.

The following contributions were made to the Gardens during the quarter under review :—

One packet seed of *Anona Cherimolia* from Mr. F. M. Pritchard, Yercaud.

One packet of Japanese *Chrysanthemums* from Miss C. Burns.

Four packets of seeds from Mr. R. J. Lynch, Cambridge.

Four packets of seeds from Mr. R. L. Proudlock, Ootacamund.

150 Cuttings of *Hibiscus* of 12 sorts and 2 shoots of *Cannas* from Lieut.-Col. J. Maitland, I.M.S.

One packet of *Elæis guineensis*—African Oil Palm from Mr. H. S. Ferguson, F.L.S., Trivandram.

One packet seed of Nectarine Cabul from Mr. W. Gollan, Saharanpore.

10 seeds of *Hyphæne thebiaca* from Mr. G. K. Krumbiegel, Baroda.

Rhizomes of *Sakama loba* and *Longora* (*Amomum Danielttee*) from Mons. E. M. Prudhome, Madagascar.

Twelve golden cocoanut seeds from the Director, Botanic and Public Gardens, Pondicherry.

39 plants of sorts from Mr. H. S. Ferguson, F.L.S., Trivandram.

13 plants of sorts from the Royal Botanic Gardens, Sibpur, Calcutta.

The following contributions were sent from the Gardens during the quarter under review :—

59 plants of sorts to Mr. John Cameron, Bangalore.

13 plants of sorts to Mr. R. L. Proudlock, Ootacamund.

19 plants of sorts to the Director, Botanic and Public Gardens, Pondicherry.

Hibiscus Cuttings to Mr. E. Gadsden, Superintendent, Central Jail, Coimbatore.

THE ANNUAL SHOW.

The 63rd Annual Show was held on February 22nd. The arrangements were the same as last year, when the departure was made of holding the Show in the Nursery instead of the Gardens, and, on the whole, was satisfactory. As is always the case, the annexe in which the ferns and foliage plants are shown was the most attractive part of the Exhibition. There were complaints that a certain amount of inconvenience was caused by having exhibits of the same class scattered in widely separated parts of the Show ; we do our best to avoid this, but cannot absolutely prevent it, without affecting the arrangements of the exhibits, which are placed for effect, as well as convenience. The Show, on the whole, was up to the average of previous years, the foliage exhibits being rather better than the flowering varieties and the flowers, taken as a whole, were in advance of previous years as might have been anticipated from the favourable season we have had. To take the flower classes all together, the exhibits that attracted most attention and secured the awards of the judges were the Roses shown by the Hon'ble Mr. H. Bradley and the Hon'ble Mr. A. W. B. Higgins. Roses do not grow in Madras with anything like the success they achieve in Mysore, Saharanpur, Calcutta, to mention only a few well-known places in India, but for Madras, the display was very good. The Carnation exhibits of Messrs. Robertson and Sowden, respectively, were good and

the same exhibitors secured prizes for their beautiful Begonias. The Chrysanthemums, as a class, were poor. Mr. Oakes' Phloxes made a brave show of colour and were rightly awarded a prize.

The Hon'ble Mr. H. Bradley was awarded the prize for the best collection of Annuals, Mr. H. K. Beauchamp being a good second. Mr. H. E. Houghton was well to the fore again with his various exhibits. His Cannas were, as usual, beautiful, and a lovely show of Petunias took the prize for its class, as well as the special prize for the best plants grown with Ichthemie guano. The Cut flowers were again poor. The People's Park carried off the Silver Medal for the best trophy of foliage plants. The Hon'ble Mr. E. Norton, always an exhibitor in the class for ferns, again took the prize for his collection. Mr. Houghton also came to the front in this class with a choice collection of Dracænas which contained over 120 named varieties—probably the most complete collections of this variety of plant in India, a list of which is given overleaf. The Superintendent of Robinson Park won the Bronze Medal for his trophy of foliage plants and the Bronze Medal for the collection of well-grown ferns. Mr. C. Runga Row Naidu showed a very fine collection of Caladiums.

Mr. Douglas Grant's gay and gorgeous crotons were awarded the Silver Medal. In the economic section, His Excellency the Governor's Farm came easily to the front with a fine collection of green forage including the new Australian fodder, *Paspalum dilatatum* as well as the best collection of aromatic plants. A new and most interesting exhibit was that of the Indian Sisal or Aloe fibre, shown by the Indian Fibre Company, quite recently promoted. The fibre was shown in its rough state as it is baled for shipment, and also combed. For purposes of comparison, specimens of Bahama and Mexican fibre were shown with it, and as far as could be seen from the exhibits as they stood, the Indian product is far superior and longer in staple, and whiter and finer than the West Indian and Mexican varieties.

His Excellency the Governor arrived early and was shown round the Exhibition by Mr. Houghton and Captain M. Molesworth, I.M.S. Judging commenced at 6-30 A.M. The Judges had their awards out while the attendance was at its best. Messrs. Spencer & Co. and Messrs. Oakes & Co. both had spacious booths in which their excellent cigars were attractively exhibited. We learn that under the improved cultivation and their up-to-date curing methods, Indian tobacco compares very favourably with that imported from Java.

H. E. The Governor's Band was in attendance and played an excellent selection of music. Appended are the names of the prize winners with the Judges' remarks on each class:—

CLASS I.—*Flowers in Pots, exclusive of Annuals.*

Judges.—The Ven'ble Archdeacon A. A. Williams and the Hon'ble Mr. M. Hammick.

1. Roses. Prize, a Bronze Medal—The Hon'ble Mr. H. Bradley.
Second Prize, a certificate—The Hon'ble Mr. A. W. B. Higgens.
2. General Collection of Perennials. Prize, a Bronze Medal or Rs. 5 and a certificate—Superintendent of Robinson Park.
3. Verbenas. Prize, a Bronze Medal or Rs. 5 and a certificate—H. E. Lord Ampthill.
4. Carnations, Picotees, Pinks and Dianthus, single and double varieties. Prize, a Bronze Medal or Rs. 5 and a certificate—Mr. A. Robertson.
5. Collection of Climbers (Perennial). Prize, a Bronze Medal or Rs. 5 and a certificate—Superintendent of Robinson Park.
6. Cannas. Prize, a Bronze Medal or Rs. 5 and a certificate—Mr. H. E. Houghton.
7. Collection of Begonias. Prize, a Bronze Medal or Rs. 5 and a certificate—Mr. C. Sowden.
8. Chrysanthemums. Prize, a Bronze Medal or Rs. 5 and a certificate—Mr. W. A. Turner.
9. Dahlias. Prize, a Bronze Medal or Rs. 5 and a certificate—Mr. C. Sowden.
10. Hibiscus. Prize, a Bronze Medal or Rs. 5 and a certificate—Mr. W. H. Oakes.

Judges' Remarks.—Roses, winning exhibit a very good collection. Verbenas, of average merit. Carnations and Picotees, etc., a very fine collection above ordinary merit. Climbers, two exhibits, both equally good. Recommend two Bronze Medals. Cannas, splendid show of blooms, very difficult to decide between the competitors. Begonias, both very good. Very little difference between them. Chrysanthemums, a poor show. Dahlias, fair show. Hibiscus, poor collection and not in good bloom.

CLASS II.—*Annuals grown in Pots.*

Judges.—Mrs. H. F. Gilchrist and Mr. W. A. Turner.

1. Collection of Annuals in pots. Prize, Rs. 10 and a certificate—The Hon'ble Mr. H. Bradley.
Second,—Rs. 5, certificate—Mr. H. K. Beauchamp.
2. Double Balsams, Rs. 5, certificate—Superintendent of Robinson Park.
3. Portulaccas, Rs. 5, certificate—H. E. Lord Ampthill.
4. Asters, Rs. 5, certificate—No Prize awarded.
5. Phloxes, Rs. 5, certificate—Mr. W. H. Oakes.

6. Climbers, Rs. 5, certificate—Mr. C. Sowden.
7. Petunias, Rs. 5, certificate—Mr. H. E. Houghton.
8. Double Zinnias, Rs. 5, certificate—Lieut.-Col. Formby.

A special prize for the best plants grown with Ichthemie guano. First, Silver Medal—Mr. H. E. Houghton.

Judges' Remarks.—Collection of Annuals in pots, only a fair class. Double Balsams, a good class, but exhibits contained a fair sprinkling of single flowers. Phloxes, a very good show, difficult to decide between exhibits. The flowers shown by the Old College Park are highly commended. Asters, a very poor show, no prize awarded. Petunias, few entries but distinctly good. Climbers, only a fair lot. Special prize given for Sweet Peas in flower which is surely most unusual to see in Madras. Double Zinnias, a fair lot, not up to the usual standard.

CLASS III.—*Cut Flowers.*

Judges.—The Hon'ble Mr. Justice R. S. Benson and Mrs. Maitland.

1. Best Bouquet, Rs. 5—Mrs. Ashpitel.
2. Best 6 Button-holes, Rs. 3—Mr. Kaneegam.
3. Hollyhocks, Rs. 3—The Hon'ble Mr. E. Norton.
4. Dahlias, Rs. 3—The Hon'ble Mr. H. Bradley.
5. Sunflowers, Rs. 3—H. H. the Rajah of Dharakota.
6. Chrysanthemums, not less than 18 varieties, Rs. 3—Mr. Douglas Grant.
7. Basket of Cut flowers, Rs. 5—Her Excellency Lady Amptill.

Judges' Remarks.—Bouquets, wanting in variety, being all much of the same character except No. 4 (Mrs. E. W. Stoney). Shower Bouquet—and No. 20 (Mrs. Ashpitel) to which we award the prize as being best arranged and having the best flowers. Hollyhocks, two of the three exhibits were very good. The Hon'ble Mr. Norton had the larger flowers and the greater number 16 varieties. Dahlias, both 16 (Hon'ble Mr. H. Bradley) and 17 (Mr. S. R. Turnbull) had many varieties but the individual flowers were much the finer in No. 16 to which we awarded the prize. Nos. 3 (Mrs. E. W. Stoney) and 5 (Appavu Naick) were well arranged and had some fine blooms but were wanting in number. Sunflowers, both exhibits very good. The flowers in that awarded to the Rajah of Dharakota were individually finer and were in better condition but Mr. N. Subrahmaniam's was also an excellent collection. Chrysanthemums, rather a poor exhibit. Basket of Cut flowers, there were only three exhibits for competition. There was also a showy collection of Cut flowers exhibited by Mariappa Naicker in pots and, therefore, not eligible for competition.

CLASS IV.—*Ferns and Foliage Plants.*

Judges.—Mr. C. Sowden and Mr. H. C. King. Mr. A. A. Hall and Mr. A. L. Hannay.

1. Trophy of ferns and allied plants. First prize, a Silver Medal—The Hon'ble Mr. E. Norton.

Second prize, a Bronze Medal or Rs. 5 and a certificate.

2. Collection of well-grown ferns, not more than one pot of each species to be exhibited. Prize, a Bronze Medal or Rs. 5 and a certificate—Superintendent of Robinson Park.

3. Trophy of foliage plants. First prize, a Silver Medal—Mr. C. J. Hay-Ellis.

Second prize, a Bronze Medal or Rs. 5 and a certificate—Superintendent of Robinson Park.

4. Caladiums. Prize, a Bronze Medal or Rs. 5 and a certificate—Mr. C. Runga Row Naidu.

5. Alocasias. Prize, a Bronze Medal or Rs. 5 and a certificate—Old College Park.

6. Palms and Cycads. Prize, a Silver Medal.—Mr. H. E. Houghton.

7. Crotons. First prize, a Silver Medal—Mr. Douglas Grant.

Second prize, a Bronze Medal or Rs. 5 and a certificate—The Hon'ble Mr. A. W. B. Higgins.

8. Dracænas. Prize, a Bronze Medal or Rs. 5 and a certificate—Mr. H. E. Houghton.

9. Aralias and Panax. Prize, a Bronze Medal or Rs. 5 and a certificate—No prize awarded.

10. Lycopodium and Selaginella. Prize, a Bronze Medal or Rs. 5 and a certificate—No prize awarded.

11. Anthuriums. Prize, a Bronze Medal or Rs. 5 and a certificate—No prize awarded.

12. Coleus. Prize, a Bronze Medal or Rs. 5 and a certificate—The Hon'ble Mr. A. W. B. Higgins.

13. Bronze Medal for the best collection of New Plants—Mr. H. E. Houghton.

Judges' Remarks.—1 to 6 Trophy of ferns: The exhibit awarded the Silver Medal contained a good variety, though the collection, taken as a whole, was not as large as in some former years. Collection of Ferns: Only one collection containing fair specimens. Foliage plants: The Judges had some difficulty in deciding upon the merits of the two exhibits, but the collection which gained the Silver Medal contained a larger number of well-grown and attractive plants and were better arranged. Calladiums: Only two exhibits. The prize collection is a distinct improvement on previous years. Alocasias: Only one exhibit a very fair collection. Palms and Cycads: Only one collection containing several rare and many high class plants. 7 to 13. Crotons: Both extremely good exhibits, the 1st prize was given to Mr. Douglas Grant as the plants were, on the whole, better. Lycopodium, etc.: A better exhibit than in previous years, but no prize awarded as there was only one exhibit.

CLASS V.—*Vegetables (grown in Madras). Not open to Government and Public Institutions.*

Judges.—1 to 10. Mr. N. Subrahmaniyam and Mr. W. E. Hoare. 11 to 20. Mr. V. G. Lynn and Mr. R. B. Michell.

1. Celery, Rs. 3—Not awarded.

2. Beetroot, Rs. 3—Mr. W. H. Oakes,

3. Turnips, Rs. 3—Mr. W. H. Oakes.
4. Carrots, Rs. 3—Mr. W. H. Oakes.
5. Onions, Rs. 3—No prize awarded.
6. Cucumbers, Rs. 3—No prize awarded.
7. Vegetable Marrows, Rs. 3—Mr. K. Yekambara Naicker.
8. Cabbages, Rs. 3—Mr. W. H. Oakes.
9. Tomatoes, Rs. 3—Mr. W. H. Oakes.
10. Asparagus, Rs. 3—Mr. E. A. S. Nicholas.
11. Peas, Rs. 3—Mr. W. J. Eales.
12. Brussels Sprouts, Rs. 3—None exhibited.
13. French Beans, Rs. 3—Mr. F. B. Lavery.
14. Kidney Beans, Rs. 3—Mr. F. B. Lavery.
15. Lettuces, Rs. 3—St. Patrick's Orphanage.
16. Knol-Khol, Rs. 3—St. Patrick's Orphanage.
17. Jerusalem Artichokes, Rs. 3—Messrs. W. H. Oakes and F. B. Lavery.
18. Radishes, Rs. 3—Mr. N. Subrahmaniyam.
19. Chillies and Capsicums grown in pots, Rs. 3—Mr. W. R. Carruthers.
20. Sweet Herbs grown in pots Rs. 3—A. Ghulam Moideen Sahib.

Judges' Remarks.—1 to 10. Some of the winning exhibits were average, but the majority were very poor. There was but little difficulty, as a rule, in awarding a prize. Both in quality and quantity the Show was far below the average. 11 to 20. Peas: A good exhibit. French beans: Mr. Eales and Mr. N. Subrahmaniyam's exhibits commended. Artichokes: Mr. W. H. Oakes and Mr. F. B. Lavery's exhibits of equal merit, prize to be divided. Best Radishes: Mr. Lavery's exhibit *proxime accessit*. Chillies: Not up to the last year's Show. Sweet herbs: Only one exhibit, but a good collection.

CLASS VI.—*Vegetables (grown anywhere). Not open to Government and Public Institutions.*

Judges.—1 to 10. Mr. H. E. Houghton and Captain W. Molesworth, I.M.S. 11 to 21. Mr. H. E. Houghton and Mr. G. Narayanasawmy Chetty.

1. Celery, Rs. 3—A. Moonesawmy.
2. Knol-Khol, Rs. 3—M. Parthasarathy Naidu.
3. Beetroot, Rs. 3—P. Venkatachellam.
4. Carrots, Rs. 3—M. Parthasarathy Naidu.
5. Turnips, Rs. 3—P. Venkatachellam.
6. Onions, Rs. 3—S. Govindarajulu Naidu.
7. Cabbages, Rs. 3—M. Parthasarathy Naidu.
8. Vegetable Marrows, Rs. 3—S. Govindarajulu Naidu.
9. Cucumbers, Rs. 3—Maduray Ammall.

10. French Beans, Rs. 3—P. Venkatachellam.
11. Kidney Beans, Rs. 3—N. Ramasawmy Naidu.
12. Tomatoes, Rs. 3—Maduray Ammall.
13. Chillies, Rs. 3—St. Patrick's Orphanage.
14. Brinjals, Rs. 3—P. Venkatachellam.
15. Bandikai, Rs. 3—R. Tholasee Naidu.
16. Potatoes, (a) large, Rs. 3—M. Parthasarathy Naidu.
(b) small, Rs. 3—S. Govindarajulu Naidu.
17. Peas, Rs. 3—Ellappen.
18. Collection of Salad Plants, Rs. 3—Govindammall.
19. Lettuces, Rs. 3—Maduray Ammall.
20. Cauliflowers, Rs. 3—M. Parthasarathy Naidu.
21. Collection of Edible Roots, Rs. 3—K. Koopoosawmy Naicker.

Judges' Remarks.—1 to 10. The show of vegetables, on the whole, was much superior to that of last year. Cabbage and onions were especially good. As regards roots and beans the object appeared to be to produce size instead of quality. Consequently, most of the vegetables were tough and woody.

CLASS VII.—*Fruits.*

Judges.—Lieut.-Col. A. J. Sturmer, I.M.S., and Mr. H. J. Porter.

1. Raspberries, Rs. 3—Bangalore Perumappa.
2. Strawberries, Rs. 5—Abbu Chetty.
3. Peaches, Rs. 5—A. Moonesawmy.
4. Apples, Rs. 5—Bangalore Papanna.
5. Pears, Rs. 5—None.
6. Sweet Oranges, Rs. 3—Rungasawmy Moodelly.
7. Pumplemoses, Rs. 2—Ratnasabapathy Moodelly.
8. Figs, Rs. 5—Rungasawmy Moodelly.
9. Grapes, Rs. 5—Rungasawmy Moodelly.
10. Sapodillas, Rs. 3—T. Venkatasawmy.
11. Melons, Rs. 3—Rungasawmy Moodelly.
12. Collection of different varieties of Plantains, Rs. 3—Santhoo Pillay.
13. Lemons, Rs. 5—Rungasawmy Moodelly.
14. Limes, Rs. 3—Gopaul Naicker.
15. Guavas, Rs. 3—T. Venkatasawmy.
16. Green Cocoanuts (different varieties), Rs. 5—T. Murugasa Naicker.

Judges' Remarks.—Raspberries: Two exhibits of nearly the same quality. Strawberries: Two exhibits of which No. 17 (Abbu Chetty) seems the better. The number of exhibitors is very small when compared with the previous year. Peaches: Only two exhibits, one of which was up to the average. Apples: Three exhibitors. It is a

pity the varieties are not named. No. 28 (Bangalore Papanna) has three varieties and the prize is given to this. Sweet Oranges: four exhibitors. A fair show. The loose jackets are rather old. Grapes: Six exhibitors. No. 41 (Rungasawmy Moodelly) a good exhibit. Sapodillas: Show very poor. Melons: Very poor and unripe. Collection of Plantains: No. 66 (Santhoo Pillay) exhibited 8 varieties. Lemons: Six exhibitors. No. 79 (Rungasawmy Moodelly) a very fair exhibit.

CLASS VIII.—*Flowers and Vegetables (grown in Madras). Open only to Soldiers, Non-Commissioned and Warrant Officers, and the Police.*

Judges.—The Hon'ble Mr. J. N. Atkinson and Mr. Reddy Branson.

1. Best collection of Flowers in pots, Rs. 10—Not awarded.
Second, Rs. 5—Not awarded.
2. Best collection of Vegetables, Rs. 10—Not awarded.
Second, best Rs. 5—Not awarded.

Judges' Remarks.—Very poor Exhibits.

CLASS IX.—*Vegetables (grown anywhere). Open to Government and Public Institutions.*

Judges.—Mr. E. W. Stoney and The Hon'ble Mr. H. Bradley.

1. Best collection of English Vegetables. Prize, a Bronze Medal or Rs. 5 and a certificate.—Mr. E. H. Gadsden, Superintendent, Coimbatore Jail.
2. Best collection of Indian Vegetables. Prize, a Bronze Medal or Rs. 5 and a certificate.—Mr. E. H. Gadsden, Superintendent, Coimbatore Jail.

2nd—A certificate.—St. Patrick's Orphanage.

Judges' Remarks.—The exhibits from Coimbatore Jail are as usual excellent.

CLASS X.—EXTRA PRIZE LIST.

Judges.—Captain R. Hollingsworth, I.M.S. and Mr. C. Benson.

1. Best Tea only 4 competition, 6 exhibits, no Medal awarded.
2. Collection of Green Forage. Rs. 10.—H. E. Lord Ampthill.
3. Collection of Fibre Plants and cleaned Fibres used in commerce. *The fibres must have been recently cleaned.* Bronze Medal or Rs. 5 and a certificate.—No exhibits.
4. Collection of Aromatic Plants growing in pots. Bronze Medal or Rs. 5 and a certificate.—H. E. Lord Ampthill.
5. Sugar-cane. Prize, a Bronze Medal or Rs. 5.—T. Moorogasa Naicker.
6. Collection of the different varieties of Food-grains other than paddy, Rs. 10.—T. Moorogasa Naicker.
7. Garden pots, pans, etc., of plain and fancy varieties of local manufacture. Prize, a Bronze Medal or Rs. 5 and a certificate.—Thagaraya Oodayar.
8. Madras-made garden implements. Rs. 5.—None.

9. Collection of flour of cereals and pulses, Rs. 5.—T. Manicka Naicker.

10. Best dyed cloths, Rs. 5.—T. Moorogasa Naicker.

11. Best sample of Aloe Fibre, Bronze Medal.—Indian Fibre Company.

Judges' Remarks.—Green-forage: A very large and interesting exhibit. Aromatic plants: A very fair collection. Sugar-cane: Two indifferent collections. Garden pots: Really useful garden pots were conspicuous by their absence. Dyed cloths: The collections were disappointing. The exhibit which failed to obtain the prize contained some interesting specimens of printed cloths. Aloe Fibres: A very beautiful sample by the Indian Fibre Company.

J. L. WALKER,
Honorary Secretary.

* New and Rare Plants.

| <i>Palmeæ.</i> | <i>Lillaceæ.</i> |
|-------------------------------|------------------------------|
| 12. <i>Areca Sanderiana.</i> | 1. <i>Dracæna Victoria.</i> |
| Do. <i>triandra nana.</i> | 6. „ <i>Norwoodiense.</i> |
| <i>Calamus Sp.</i> | 10. „ <i>The Sirdar.</i> |
| <i>Chameorops Arboria.</i> | „ <i>Umbraculifera.</i> |
| <i>Cocos Gaertneri.</i> | |
| 9. <i>Geonoma pumila.</i> | <i>Euphorbiaceæ.</i> |
| <i>Licuala elegans.</i> | <i>Acalypha Brownii.</i> |
| <i>Livistonia inermis.</i> | „ <i>densiflora.</i> |
| 14. <i>Kentia Sanderiana.</i> | |
| 15. <i>Pinanga lepida.</i> | <i>Gesneraceæ.</i> |
| | <i>Saintpaulia ionantha.</i> |
| <i>Pandaneæ.</i> | |
| <i>Pandanus Utilis.</i> | |

* New Timber Trees.

Urticaceæ.

Artocarpus Lakoocha—Monkey fruit—tree medium height, large leaves and yellow fruit.

Meliaceæ.

Amoora Rohituka—medium sized tree.

Anonaceæ.

Anona Glabra—New kind.

Rutaceæ.

Acronychia Baueri—tree medium sized, rather spreading.

Myrtaceæ.

Eugenia lateriflorum—tall tree, upright growth, fruit astringent.

Leguminosæ.

Gleditschia Coccinea—New kind.

* These lists were kindly forwarded to us by Mr. H. E. Houghton.

* LILLACÆ. DRACÆNAS.

About 100 varieties, of which 53 New and Rare ones just imported.

- | | |
|---------------------------------------|--|
| 1. Alexandra. New and Rare. | 47. Mrs. Hoskins. New and Rare. |
| 2. albo-marginata. | 48. Mrs. Robert Turner. New. |
| 3. angustata. New. | 49. ——— Wills. New. |
| 4. amabilis. | 50. metallica. |
| 5. albicans. | 51. Mont Blanc. New. |
| 6. australis. | 52. Madame Bergmann. New. |
| 7. ampliata rubra. New. | 53. ——— Heine. New. |
| 8. Atheyii. | 54. magnifica. New. |
| 9. Bausei. | 55. nigricans. |
| 10. Baptistii. | 56. nestor. New. |
| 11. Barroni. New and Rare. | 57. Nonpareil. New. |
| 12. Brilliant. New. | 58. Norwoodiensis. New and Rare. |
| 13. Chelsoni. | 59. picturata. |
| 14. cannæfolia. | 60. Prince Manouk Bey. New. |
| 15. Cordyline Stricta. | 61. Prince Chas. of Denmark. New and Rare. |
| 16. compacta alba. New. | 62. putcherrima. New and Rare. |
| 17. Coulingii. New and Rare. | 63. picta. New and Rare. |
| 18. Constant Lemoinier. New and Rare. | 64. Pedro. New. |
| 19. compacta rosea. New and Rare. | 65. Percyii. New. |
| 20. Dennisonnii. | 66. pendula. New. |
| 21. Duffii. New. | 67. Pouballi. New. |
| 22. elegantissima. New. | 68. Robinsoniana. |
| 23. Exquisite. New and Rare. | 69. Reginæ. |
| 24. elegans rubra. | 70. rubella. |
| 25. Emblem. New. | 71. Shepardii. |
| 26. ferrea. | 72. surculosa maculata. |
| 27. ——— vera. | 73. Sanderiana. New and Very Rare. |
| 28. fragrans variegata. | 74. superba. New. |
| 29. Frederici. New. | 75. Stella. New. |
| 30. Favorite. | 76. Snowball. New and Rare. |
| 31. Gayii | 77. superbiens. New. |
| 32. Guilfoylei. | 78. Tennyson. New and Rare. |
| 33. Gladstonei. New. | 79. terminalis. |
| 34. Godseffiana. New and Rare. | 80. triumphaus. |
| 35. Goldieana. Very Rare. | 81. ——— Alba. |
| 36. Hendersonii. | 82. The Sirdar. New and Rare. |
| 37. heliconæfolia. | 83. Thompsonii. New. |
| 38. hybrida. | 84. Taylori. New. |
| 39. Hookeri. New. | 85. Umbraculifera. New and Rare. |
| 40. imperialis. | 86. Virginalis. New. |
| 41. Imperator. New. | 87. Victoria. New and Very Rare. |
| 42. Laingii. New. | 88. Willsii. New. |
| 43. Louisa. New. | |
| 44. Lord Roberts. New & Rare. | |
| 45. Lord Wolseley. New and Rare. | |
| 46. Lindeni. | |

Over one dozen kinds unnamed.

* These lists were kindly forwarded to us by Mr. H. E. Houghton.

Proceedings of the Agri-Horticultural Society for the 2nd April, May and June, 1902.

The following letter was read :—

We recommend that Mr. Houghton be awarded a medal for the Rare trees and plants exhibited by him at the last Flower-Show. We think the Palms, *Dracœnas*, (notably *Umbraculiferæ* and the *Sirdar*), *Pandanus* and *Saintpaulia* specially worthy of mention. On the whole, the exhibit is of such excellence as to justify our making the above recommendation for a special award, in spite of there being no other exhibit, as required by condition 4 of the Flower-Show Competition Rules. We recommend that, if possible, a Silver medal be awarded to Mr. Houghton, but, if this cannot be allowed, then a Bronze one.

A. L. HANNAY.

B. F. CAVANAGH.

A bronze Medal was awarded by the Committee.

The Honorary Secretary then intimated that the following contributions had been received during the month of April.

Planting Opinion, Vol. VII, Nos. 14 to 17 for April 1902.

Indian Forester, Vol. XXVIII, No. 4 for April 1902, Ed. by J. W. Oliver, Esq.

Tropical Agriculturist, Vol. XXI, No. 10 for April 1902 by Messrs. A. M. and J. Ferguson, Colombo.

Central Province Bulletin No. 6 on "Terms Taprobanes."—White ants as a pest of trees.

Annual Report of the Burdwan Experimental Farm for 1900-1901, by D. N. Mookerji, Esq., Bengal.

Report on the Operations of the Department of Land Records and Agriculture, N.-W. Provinces and Oudh for year ending 30th September, 1901, by W. H. Moreland, Esq.

Eighteenth Annual Report of the Department of Land Records and Agriculture, Bombay Presidency for 1900-1901, by Fred. Young, Esq.

Report on the Trivandrum Museum and Public Gardens for 1900-1901, by H. S. Ferguson, Esq., F.L.S.

Agricultural Bulletin, Vol. I, No. 6 for March 1902, of the Straits and Federated Malay States, by H. N. Ridley, Esq., F.L.S.

Annual Report on the Botanic Gardens for 1901, Straits Settlements, by W. Fox, Esq.

Kew Bulletin. New Garden Plants of the year 1901.

West Indian Bulletin, Vol. II, No. 4.

List of Palms, in the Government Botanic Gardens, Brisbane, Queensland, July 1901.

Exchange Seed list, Botanic Gardens, Sydney for 1902.

Jamaica Annual Report, Public Gardens and Plantations for the year ended 31st March 1901, by W. Fawcett, F.L.S.

The following contributions were made to the Gardens during April :—

From R. L. Proudlock, Esq., Curator, Botanic Gardens, Ootacamund.

- 1 White *Amaryllis Belladona*.
- 1 Pink do do.
- 12 *Zephyranthes carinata*.
- 12 Do. rosea.
- 2 *Amaryllis formosiana*.
- 4 *Phædranassa aurantiaca*.
- 6 Nilgherri lily.
- 3 White *Tigridia*.
- 3 Red do.
- 2 *Iomine undulata*.
- 2 *Vallota purpurea*.

B. Noble, Esq., Superintendent, Agri-Horticultural Society, Rangoon.

- 12 seeds of *Amherstia nobilis*.

Major D. Prain, Superintendent, Royal Botanic Gardens, Sibpur, Calcutta.

- 1 packet seed of *Sterculia alata*.
- 1 do. do. do. Var.

The following plants and seeds were sent out.

12 plantain suckers to R. L. Proudlock, Esq., Curator, Botanic Gardens, Ootacamund.

2 seeds of *Amherstia nobilis* to J. Cameron, Esq., Superintendent, Government Gardens, Mysore.

One Gentleman joined the Society, *viz.*, S. Ponnambalam Pillay, Esq, in Class A.

**Committee Meeting held on Friday the 17th May,
1902, at 7 a.m.**

PRESENT :

| | |
|---|---|
| W. H. Oakes, Esq., <i>in the</i> <i>Chair.</i> | H. E. Houghton Esq., <i>Hono-</i> <i>rary Treasurer.</i> |
| G. Narayanasawmi Chettyar, Esq. | J. L. Walker, Esq., <i>Honorary</i> <i>Secretary.</i> |

Obituary.—

The Committee received with much regret the news of the death of Rai Bahadur A. Dhanakoti Mudaliar, an Extraordinary member of the Society, who had always taken the greatest interest in the Society's work. (A copy of Resolution was forwarded to his family).

The Financial Statement for 1901 was passed. Resolved that the pay of the Superintendent Mr. B. F. Cavanagh be raised by Rs.25 from the 1st April, 1902.

The following books were bound and placed in the Society's Library.

Gardeners Chronicles, 2 vols., 1901.

Curtis's Botanical Magazine, Vol. 57.

Indian Forester, Vol. 27.

Jamaica Bulletin, Vols. IV and VI.

Experiment Station Record, Vol. XI.

Kew Bulletin, 1899.

Tropical Agriculturist, Vol. XX.

Memoirs of Geological Survey of India, Vols. 24 to 31.

Agricultural Ledger, 7 vols.

Bombay Flora, Part I.

The following contributions were received during the month of May 1902.

Agricultural Bulletin, Vol. I, No. 7 for April 1902, Straits and Federated Malay States, by H. N. Ridley, Esq., F.L.S.

Bulletin, Vol. IX, Part 3. Botanical Department, Jamaica, by William Fawcett, Esq., F.L.S.

Bulletin, Appendix I, III and IV, 1902, Royal Botanic Gardens, Kew.

Bulletin No. 8, Revised Edition of Bulletin No. 2, Agricultural Department, Assam.

Experiment Station Record, Vol. XIII, No. 7.

The Indian Forester, Vol. XXVIII, No. 5, edited by J. W. Oliver, Esq.

Curtis's Botanical Magazine, Vol. LVIII, May No. 689, by Sir Joseph Dalton Hooker, M.D., etc.

Planting Opinion, Vol. VII Nos. 18, 19, 20, 21 and 22.

The following contributions were made to the Gardens during May :—

Major D. Prain, Superintendent, Royal Botanic Gardens, Sibpur, Calcutta.

1 lb. of *Bambusa Spinosa*.

1 packet of Uganda Coffee seed.

W. H. Oakes, Esq., Madras.

1 *Hibiscus* (double white)

6 large fruited pine apple suckers.

J. Cameron, Esq., Superintendent, Government Gardens, Mysore.

1 lb. of *Mucuna nivea* (Florida Velvet Bean).

68 Seedlings, *Michelia Champaca*.

1 *Begonia carolina*.

1 *Oxalis* Large yellow.

1 Do. *Bipinsifolia*.

1 Do. Double yellow.

1 Do. Lilac dwarf.

1 Do. Sp.

1 Do. *Ceruna*.

1 Do. *Alba*.

1 Do. *Bowiei*.

1 Do. *Marginata*.

W. E. Broadway, Esq., Curator, Botanic Gardens, Grenada, West Indies.

1 packet seed *Bactris plumeriana*.

1 do. do. *Didymospermum distichum*.

1 do. do. *Pritchardia pacifica*.

Mrs. F. M. Robinson, Madras.

1 packet seed *Pergularia* sp.

The following seeds and plants were distributed during May:—

P. Lancaster, Esq., Secretary, Agri-Horticultural Society of India.

5 lbs. of seed of *Inga Dulcis*.

1 packet of *Bambusa spinosa* to the following:—

J. Cameron, Esq., Lal Bagh, Bangalore.

H. S. Ferguson, Esq., Director, Public Gardens and Museum, Trivandrum.

Dewan of Pudukotta.

Lakshmi Varahu Iyer, Esq.

Rajah of Parlakimidi.

H. H. The Maharajah of Bobbili.

Rajah of Kurupam.

A. P. Miller, Esq., Manager, The Lessees, Sivaganga Zemindary. Zemindar of Nellathore.

Do. Ettyapuram.

Do. Ootakuli.

Do. Polavaram.

J. M. Nallasawmi Pillay, Esq., District Munsiff, Yelamanchili. Director, Botanic Gardens, Pondicherry.

His Excellency, The Right Honorable Lord Ampthill, Governor of Madras.

The following plants and seeds were presented to the Gardens during the month of June:—

From Major D. Prain, Superintendent, Royal Botanic Gardens, Sibpur, Calcutta.

22 packets of seeds—Miscellaneous.

8 packets of *Paspalum Dilatatum* marked A. and B. for experimental purposes.

Director, Botanic Gardens, Jamaica.

1 packet of *Cecropia peltata*.

Dr. D. Morris, Director of the Imperial Department of Agriculture, Barbadoes, West Indies.

1 small bag of *Pithecolobium saman*.

W. E. Broadway, Esq., Curator, Botanic Gardens, Grenada, West Indies.

1 small bag of *Licuala grandis*.

H. S. Ferguson, Esq., Director, Public Gardens and Museum,
Trivandrum.

22 Orchids as appended :—

- 1 *Anætochilus elatior*.
- 1 *Arundina bambusiflora*.
- 1 *Bletia antirrhiniflora*.
- 1 *Cypripedium Druryi*.
- 1 ,, *Euryale*.
- 1 ,, *Spicerianum*.
- 1 *Dendrobium Bensoniæ*.
- 1 ,, *Chrysotoxum*.
- 1 ,, *Dalhousieanum*.
- 1 ,, *Draconis*.
- 1 ,, *Jenkinsii*.
- 1 ,, *Nobile*.
- 1 ,, *Pierardi*.
- 1 *Eulophia virens*.
- 1 *Phajus Wallichii*.
- 1 *Rhynchosstylis retusa*.
- 1 *Saccolabium Wightianum*.
- 1 *Thunia* Sp.
- 1 *Vanda Roxburghii*.
- 1 ,, *Spathulata*.
- 1 ,, *Teres*.

The following plants and seeds were sent out during the
month of June :—

Prof. Balfour, Regius Keeper, Royal Botanic Gardens,
Edinburgh.

10 packets of seeds.

Sir W. T. Thiselton Dyer, F.R.S., etc., Director, Royal
Gardens, Kew.

8 packet of seeds.

Director, Botanic Gardens, Missouri, U. S.

5 packets of seeds.

Imperial Department of Agriculture, California.

12 packets of seeds.

Dr. Franz, Stulkman, German West Africa.

12 packets of seeds.

Director of Botanic Gardens, Buenos Aires, South America.

22 packets of seeds.

Extracts from letter received from W. H. Oakes, Esq. :—

The cultivation of these and other pines is quite easy, and I think well repays the trouble taken. In August I repot all my pines, I make up a compost of 2 baskets red earth, 1 basket sand, 1 basket each well rotted cattle and horse manure. The pots are well drained, as I find the plants like a lot of water and like it to run away quickly. When re-potting I take away all shoots, but the one which I am going to grow for fruit, (it fruits the second year) as soon as the young shoots are well established plants, I cut away the portion that has carried fruit this year. In January of each year, I give each pine that has fruit, a good supply of liquid manure once every week, I find this is a great help to them and the fruit is much larger and heavier. I do not think the country pines are worth growing when you can get the Kew or Ceylon pine, but I have grown them up to 6 lbs. (including the head) and the Ceylon pine I have grown to 11½ lbs. (including the head). I am told they should grow to 18 lbs.

Mr. Oakes has been very successful in the cultivation of his pine-apples, his system, will therefore be well worth carrying out.

The pineapple like all other members of its family is a native of Trop. America and consequently was unknown to Europe, Africa and Asia before the discovery of the Western Continent. It was introduced into Bengal by the Portuguese in 1594 and from there has been distributed over India generally and in some parts has become naturalised.

Cultivation in the Open Ground.

The pineapple succeeds best when cultivated in a well drained, rich, fibrous, loamy soil, of such a consistency, that it will not become compact by frequent waterings.

The more light and air the plant gets, the better it will thrive, therefore, set your plants 3 feet apart in the rows and the rows 3 feet distance from one another.

The ground should be well dug and pulverized to a depth of 18" and afterwards thrown up into ridges 3 feet apart and the suckers planted firmly on the crest of the ridge. When planting several rows, do not put the plants opposite one another, but angle them, in this way—each plant will have an equal share of light and air, also it will have more room to develop.

In preparing the suckers, remove 3 or 4 of the bottom leaves, this will encourage a more healthy root growth. When the plants are well established, they may be mulched with animal manure, preference being given to stable manure, as this contains ammonia, which is favourable to their growth. As soon as the plant commences fruiting, they may be given moderate supplies of liquid manure, made from either sheep, horse or pigs,

dung. As soon, however, as the fruit is fully developed and shows signs of ripening, water should be withheld and the plant kept dry.

Cultivation in Pots.

The soil should be of such a nature as to allow the free passage of water. The pots used should be cleaned and well drained, a little charcoal and crushed bones added to the soil would be beneficial to the plant. Animal manure or any other matter that is likely to decay quickly, should not be mixed with the soil. Stable manure may be used as a mulch when the plant is about to fruit, weak liquid manure may be also given up to the ripening stage.

Coco-De-Mer. *Lodoicia Sechellarum* (Double Cocoanut.)

After a great deal of trouble on the part of Messrs. Binny & Co., they were fortunate enough to obtain for us from the Sechelles, 6 germinated seeds of this giant palm.

By an oversight on the part of the steamer authorities, they were over-carried to Calcutta, and after they did at last reach us, their *radicals* had been so damaged, by pressure against the sides of the box, that, for growing purposes they were useless. At the Royal Gardens, Kew, a specimen of this palm is flourishing in the Victoria Regia tank, in appearance it is not unlike the *Pritchardia Pacifica*, only on a larger scale. "In olden times important medicinal virtues were attributed to these nuts, water drank out of vessels made of them being supposed to preserve people from all complaints." Long previous to the discovery of the Sechelles (1743), these enormous fruits were found floating in distant parts of the seas, they then commanded fabulous prices and even at no very distant date, high prices have been paid for them. It is the giant of the Palm family, the male tree often attaining a height of 100 feet. From the time of flowering to the maturation of the fruit, a period of nearly 10 years elapses.

Appended is the half-yearly Balance Sheet.

J. L. WALKER,
Honorary Secretary.

Financial Statement, January to June, 1902.

| INCOME. | | Rs. | A. | P. |
|---|--|--------------|-----------|----------|
| By Balance with Bankers on 31st December, 1901. | | 1,894 | 14 | 5 |
| " Do. on hand General Cash, 31st December, 1901 | | 35 | 4 | 0 |
| " Balance on hand Petty Cash, 31st December, 1901 | | 250 | 14 | 11 |
| " Sales of Seeds, Plants and Flowers.. .. . | | 2,567 | 4 | 0 |
| " Flower Show | | 1,099 | 12 | 5 |
| " Subscriptions from Members | | 993 | 0 | 0 |
| " Government Grants | | 2,250 | 0 | 0 |
| " Interest from Bankers | | 21 | 11 | 10 |
| Total Income | | 9,112 | 13 | 7 |
| RUPES .. | | | | |

| EXPENDITURE. | | Rs. | A. | P. |
|---|--|--------------|-----------|----------|
| To Superintendent's salary | | 1,250 | 0 | 0 |
| " Office and Garden Establishment | | 923 | 13 | 4 |
| " Garden coolies and Extra labour | | 425 | 11 | 3 |
| " Garden Requisites | | 382 | 4 | 9 |
| " Seeds, Plants and Flowers | | 1,684 | 0 | 3 |
| " Charges Recoverable | | 302 | 8 | 8 |
| " Petty Charges | | 77 | 3 | 11 |
| " Postage and Stamps | | 114 | 13 | 8 |
| " Printing and Advertising | | 68 | 6 | 6 |
| " Books, Periodicals and Stationery | | 208 | 14 | 6 |
| " Flower Show | | 1,155 | 2 | 9 |
| " Sundries | | 99 | 0 | 9 |
| " Red Hills Water-Supply | | 195 | 9 | 4 |
| " Balance with Bankers on 30th June, 1902 | | 1,993 | 7 | 8 |
| " Do. on hand Petty Cash | | 176 | 7 | 0 |
| " Do. do General Cash | | 55 | 5 | 3 |
| Total Expenditure | | 9,112 | 13 | 7 |
| RUPES .. | | | | |

J. L. WALKER,
Honorary Secretary.

MADRAS, }
25th September, 1902. }

THOS. CRONAN,
Auditor, A-H.S.

Proceedings of the Agri-Horticultural Society of Madras, for the months of July, August and September 1902.

At a Committee Meeting held on the 29th July, the following members were present:—

A. L. HANNAY, Esq., *Chairman*.

N. SUBRAHMANYAM, Esq.

H. E. HOUGHTON, Esq., *Honorary Treasurer*.

J. L. WALKER, Esq., *Honorary Secretary*.

Repairs to Office.—Resolved, that the Office be repaired, and that the estimates be referred to a Sub-Committee composed of Messrs. N. Subrahmanyam, H. E. Houghton and J. L. Walker.

Late Seed Clerk.—A petition from the latter to the Committee was considered. Resolved, that the Committee refuse to interfere in the matter.

Vacancy on the Committee.—Resolved, that Mr. L. E. Kirwan be invited to join the Committee.

The Secretary then intimated that the following contributions had been made to the Society during the month under review:—

The following Periodicals were presented to the Society during the month of July 1902.

Annual Report of the Queensland Acclimatisation Society for 1901-1902.

Natal plants, Vol. 3, Part IV, by J. Medley Wood, F.L.S.

Annual Administration Report of the Forest Department of the Madras Presidency, 1900-1901.

Agricultural Bulletin of the Straits and Federated Malay States, Vol. I, Nos. 8 and 9, by H. N. Ridley, M.A., F.L.S.

Contributions from the Biological Society of Antioch College, at Yellow Springs, Ohio, under the direction of W. L. Tower. No. 5.

Annual Report of the Government Botanical Gardens, Lucknow, for 1901-1902.

Imperial Department of Agriculture for the West Indies:

No. 16, Hints on Onion cultivation.

No. 15, Plain Talk to small owners.

A Fortnightly Review of the Imperial Department of Agriculture for the West Indies, Vol. I, Nos. 5 and 6.

Annali della Regia Schola Superiore Di Agricoltura, In Partici, Serie Seconda, Vol. IV, Fasc. I.

Bulletin of the Botanical Department, Jamaica, Vol. IX, Parts 5 and 6, edited by William Fawcett, B.S.C., F.L.S.

The Tropical Agriculturist, edited by A. M. and J. Ferguson, Vol. XXII, No. 1.

Department of Land Records and Agriculture, Season and Crop Report of Bengal for 1901-1902.

Journal D'Agriculture Tropicale, No. 13, edited by J. Vilbouche-witch, Paris.

Report of the Director of the Botanical Survey of India for the year 1901-1902.

The Queensland Agricultural Journal, Vol. XI, Part 1, edited by A. J. Boyd, F.R.G.S., Q.,

Annual Report of the Agricultural Department of the Government of H. H. the Sultan of Zanzibar.

Planting Opinion, Vol. VII, Nos. 27, 28, 29 and 30.

Curtis's Botanical Magazine, Vol. LVIII, No. 691, by Sir Joseph Dalton Hooker, M.D., G.C.S.I., etc. (Purchased.)

The Gardeners Chronicle, Vol. XXXI, Nos. 806, 807, 809 and 810. (Purchased.)

Seeds and Plants :—Received.

19 packets of seeds from the Curator, Botanic Gardens, Singapore.

26 packets of seeds from the Curator, Botanic Gardens, Sydney, Australia.

We regret that by an oversight the following plants presented by Mr. H. E. Houghton were omitted in our last report.

Acalypha illustrata.

„ *Mosaica.*

„ *tortilis.*

„ *densiflora.*

„ *Brownii.*

Anona glabra.

Acronychia Baureii.

Amoora rohituka.

Gleditskia coccinea.

Eugenia sp.

Pandanus utilis.

Rainfall.—The rainfall was up to the average of other years. There were in all 9 rainy days, with a total fall of 4·77 inches.

Improvements.—The direction of the boundary path by the North Gate was diverted to lessen the cramped appearance of this part of the gardens, and the boundary path between the

Dutch garden and the East Gate was slightly altered, the curves being lessened to form a recess in the shrubbery.

The Gardens having been rather overplanted with certain specimens, such as *Cycas circinalis*, *Bambusa Siamensis*, etc., many of these were cut down or transplanted. A worn out specimen of *Castanospermum Australis* growing near the office was also cut down.

The following correspondence on *Paspalum dilatatum* is reproduced in detail:—

From THE SUPERINTENDENT,
Royal Botanic Gardens, Calcutta.

To THE SUPERINTENDENT,
Agri-Horticultural Society, Teynampett, Madras.

Dated January 28th, 1901, No. 72 s. of 1901.

SIR,—With reference to your letter No. 206, dated 21st January, 1901, I have the pleasure to inform you that the undernoted seed has been despatched to your address by Parcel Post, prepaid, to-day and to request the favour of an acknowledgment.

| | |
|--|---|
| <p><i>Paspalum dilatatum</i> seed { 1 lb. in one Parcel. }</p> | <p>I have the honor to be, Sir, Your most obedient servant, (Sd.) A. F. GAGE, for Superintendent, <i>Royal Botanic Gardens, Calcutta.</i></p> |
|--|---|

No. 73 s. of 1902.

From THE SUPERINTENDENT,
*Royal Botanic Gardens,
Calcutta.*

January 18th, 1902.

To THE SUPERINTENDENT,
*Agri-Horticultural Society, Teynampett,
Madras Presidency.*

SIR,—On 28th January, 1901, I had the honour to forward to you seed of *Paspalum dilatatum*, a fodder grass new to India and stated to be suitable especially for dry localities.

That it is not a very suitable grass for moist climates I am in a position to say from my experience with the grass at Calcutta. I should, however, esteem it a favour if you will kindly favour me at your convenience with a brief note of the success or otherwise that has attended your experiment. The grass is one that

has for some time been quoted in various newspapers and journals as suitable for India and I still receive at intervals requests for the supply of its seed. Before, however, advising Government to incur the expense of its further importation I am desirous of ascertaining how far these newspaper notices are borne out by actual experience and a statement of what yours has been will therefore be of much value.

I have the honor to be,

Sir,

Your most obedient servant,

D. PRAIN, M.B., Major, I.M.S.,
Supt., Royal Botanic Gardens, Calcutta.

TO THE SUPERINTENDENT,

Royal Botanic Gardens, Calcutta.

Dated 7th April, 1902.

SIR,—In reply to your enquiries regarding *Paspalum dilatatum*, I now lay before you extracts from letters received from several parties to whom we gave seed for trial.

OLD COLLEGE PARK.—The growth of *Paspalum dilatatum* seeds has not proved by any means a success. I sowed the seeds both on the garden ground and in two pots, and used the same manure as that used for crotons, lilies, alocasias and the like, and I fear that the soil is not favourable to the growth of this kind of fodder. For two months the seeds did not sprout and I found more of the Madras grass grow than this species of fodder. It seems to me that in some other suitable soils and with special manure, this kind of fodder might eventually grow well and rise to our expectations, but my experiment in the compound of the Old College Hall has proved a failure, or at all events does not enable me to speak of its positive value as a fodder.

OOTACAMUND.—The grass is decidedly valuable at 5,600 feet elevation. It spreads and forms a thick mass. The seed is rather difficult to germinate and should be picked when quite ripe. I got a pound from Australia and it was a failure because it was picked green.

VIRUDUPATTE.—The *Paspalum dilatatum* seed you sent me in December last did not germinate, I cannot say whether the seed you sent me was bad or what was the matter.

ADYAR.—In reply to your letter of yesterday, I write to say that so far as I recollect the *Paspalum dilatatum* was a failure in every respect. The seeds came up but did not mature. I tried some in a flower pot with rather better success, but of course, the plant was useless so grown. I should say that the plant is not a good drought resisting fodder, at any rate in Madras.

SIVAGANGA.—I regret I have only been able to make small experiments with *Paspalum dilatatum* grass and so far what I have observed is (1) that the seed is long in germinating, (2) that the grass grows very slowly and without as much water as some other

fodder grasses require; the growth is stunted and poor, (3) that grown side by side with *Pennisetum cenchroides* var *echinoides* and under similar conditions, with occasional irrigation, it does not compare with the latter in facility and luxuriance of growth.

KAINIA BETTA ESTATE, SOUTH COORG.—When I put the seed down in the dry weather it made but slow progress, although it was watered and looked after. Common grass came up with it and for a time I found it difficult to distinguish between them. But when the one in question in due course produced seed, then only was I quite sure about it. Last wet weather, I planted out a number of roots in the same way as we plant guinea grass and it is all doing well. At the same time I am doubtful as to whether it has any advantages over guinea grass, or is indeed quite so good. It is not so strong or fine, but it may grow during the long dry weather which the guinea grass will not. We had rain in December last, so that it is too soon to say what its powers are as a drought resisting fodder. I shall be glad to report on this matter later on in the season.

BANGALORE.—Of the seeds you were good enough to send me in December 1900, I planted one half in the open on carefully prepared fenced land and none of them germinated, but most of the other half which were sown in good soil in flat pans and carefully watered and shaded did so but grew very slowly. When the grass had formed vigorous roots, it was transplanted during the rains on to a plot of ground formed in ridges where it has done fairly well, but I am certain that without attention and unwatered it would all have perished. I am of opinion that this grass, which apparently is only a variety of *Paspalum scrobiculatum*, a millet found extensively cultivated in the most barren soils in India, is much overrated, and unless given much attention will never suit for this country as a fodder plant and is not to be compared with *Cynodon dactylon* or the *Hurrialee* of South India and *Dub* of North India, which is capable of propagating itself from its wide spreading roots, and which as a fodder plant in India cannot be equalled if only given a fair chance and not rooted out of the ground during the dry weather as is the custom throughout India. I may mention that *Paspalum dilatatum* is quite unsuited for planting on lawns or compounds as it is a rough untidy grass.

MYSORE.—With reference to your D. O. letter of the 31st January last, I have the honour to inform you that the *Paspalum dilatatum* seed has as yet not been sown in any quantity, as rain is awaited. I have, however, experimented with the seed in irrigated beds to note the system most favourable for its cultivation. Sowing in larger quantities will be tried after the next fall of rain and the result communicated to you as desired.

In the gardens here, I made 2 beds 8' long by 3' wide and sowed the seed. It was very carefully attended to but barely 1 per cent. of the seed germinated. At the same time I sowed in flat pans. These germinated well and were treated in the same way as ordinary annual seedlings; first they were pricked off into pans and in 3 weeks' time they were potted into 3" pots and finally planted out into prepared beds 8' by 3' and carefully watered. They did very well

here and soon formed large tufts. They were divided up in September of 1901 and transplanted, the surplus stock being distributed to Members and others. Our experience has been that without an occasional watering, the growth is hard and stunted. Our plants flowered in November and bore a quantity of seed, but they failed to germinate with us. We have two parties trying it on a large scale, one in Coimbatore, the other in Mysore, and we shall be glad to forward their report when it comes to hand.

Yours faithfully,

(Sd.) J. L. WALKER,

Honorary Secretary.

The following gentlemen were elected as Members during the month :—

F. A. Coleridge, Esq., in Class B, and R. Greenall, Esq., in Class A.

At a Meeting held on the 22nd August, the following Members were present :—

The Hon'ble Mr. Justice H. T. BODDAM.

G. NARAYANASAWMY CHETTIAR, Esq.

N. SUBRAHMANYAM, Esq.

C. SOWDEN, Esq.

The Hon'ble Mr. F. A. NICHOLSON, *Ex-officio Member.*

The Hon'ble Mr. Justice R. S. BENSON.

L. E. KIRWAN, Esq.

J. L. WALKER, Esq., *Honorary Secretary.*

The Secretary intimated that the business of the Meeting was the revision of the Prize List for the Flower Show. Several alterations were made and it was resolved that Class X should read as follows :—

Class X.—Extra Prize List.

The following prizes will be open to the produce of the Madras Presidency, Hyderabad, Mysore, Coorg, Travancore and Cochin :—

I. Collection of cleaned fibres, not less than 5 lbs. weight of each with plants either growing or as botanical specimens. The fibres must have been recently cleaned. Prize, Silver Medal.

II. Best Sample of Aloe fibre not less than 5 lbs. Prize, Bronze Medal.

III. Collection of Forage—

(a) Green. Prize Rs. 10.

(b) Dry. „ Rs. 10.

IV. Collection of Aromatic plants growing in pots. Prize, Bronze Medal.

V. Sugar-cane 50 lbs. samples; juice to be tested for saccharine value. Prize, Silver Medal.

VI. Collection of the different varieties of food-grains other than paddy. Prize Rs. 10.

VII. Vegetable dyes used in dyeing locally, and cloths dyed therewith. Prize, Silver Medal or Rs. 10.

VIII. Collection of Gums and resins correctly named. Prize Rs. 5.

IX. Collection of flour of Cereals and Pulses. Prize Rs. 5.

X. Madras-made garden implements. Prize Rs. 5.

XI. Garden pots, pans, etc., of plain and fancy varieties of local manufacture. Prize, a Bronze Medal or Rs. 5 and a Certificate.

Silver or Bronze Medals will be awarded for any exhibits of special economic value, *e.g.*, rubbers, tobacco leaf grown locally, fit for wrappers, tanning materials, etc., etc.

The following Periodicals were presented to the Society during August 1902:—

Agricultural News. A Fortnightly Review of the Imperial Department of Agriculture for the West Indies, Vol. I, Parts 7 and 8.

Report on the Government Botanical Gardens, Saharanpore and Missourie for the year 1901-1902.

The Indian Forester, Vol. XXVIII, No. 8, edited by J. W. Oliver.

Planting Opinion, Vol VII, Nos. 31, 32, 33, 34 and 35.

Catalogues, Barr's Daffodils.

Dutch Bulbs. E. H. Krelage & Son, Holland.

Miscellaneous. The Yokohama Nursery Co., Ltd.

Bulbs. James Veitch & Sons.

Hardy trees and Shrubs. James Veitch & Sons.

Curtis's Botanical Magazine. By Sir Joseph Dalton Hooker, M.D., G.C.S.I., etc. (Purchased.)

Bulletin of the Botanical Department.

Jamaica, Vol. IX, Part 7. Edited by William Fawcett, B.Sc., F.L.S.

Department of Agricultural, Central India. Bulletin No. 7, *Paspalum dilatatum*.

Agricultural Bulletin of the Straits and Federated Malay States, Vol I, No. 10. Edited by H. N. Ridley, M.A., F.L.S.

Government of Madras, Revenue, G.O. No. 719, August 1902.

The Flora of the Bombay Presidency, Part II. By Theodore Cooke, C.I.E.

The Gardeners Chronicle, Vol. XXXII, Nos. 8, 11, 12, 13 and 14. (Purchased.)

The following seeds were received and acknowledged by the Secretary during August :—

From Kenworthy Brown, Esq., Egmore.

1 packet of seed of *Passiflora edulis*.

1 packet of seed of *Passiflora macrocarpum*.

The Curator, Botanic Gardens, Grenada, West Indies.

1 packet of *Hyophorbe Verschaffeltii*.

The Director, Royal Gardens, Kew.

8 packets of seeds.

The Curator, Botanic Gardens, Durban, Natal.

4 packets of seeds.

Notes by the Superintendent.

The Cocoa plant by the Palm House is just now in full flower and several flowers have fertilized and developed fruits.

A specimen of *Bignonia Megapota mica* which was crowding a fine specimen of the Talipot Palm has been cut down.

A specimen of *Grevillea robusta* by the Main Gate has been cut down, as also 3 large plants of *Livistonia Mauritiana*.

Rainfall.—The rainfall during the month was 3·49 inches. There were in all 7 rainy days

At a Committee Meeting held on the 8th September the following gentlemen were present :—

The Hon'ble Mr. Justice H. T. BODDAM, *Chairman*.

C. SOWDEN, Esq.

N. SUBRAHMANYAM, Esq.

H. E. HOUGHTON, Esq., *Honorary Treasurer*.

J. L. WALKER, Esq., *Honorary Secretary*.

Resolutions :—

An Estimate for repairing the Office of Rs. 1,541-11-8 was presented and passed.

Resolved, that an auction of sale of plants be held on 25th October, 1902.

PRIZE LIST.

To be added in Class III. Table decoration Rs. 5.

Add to each class. Extra prize for any new flower in this class, not raised or exhibited before.

Class IV, No. XIII. Silver Medal for the best collection of New Plants.

No. XIV. Bronze Medal for 2nd best collection of New Plants.

The Secretary then intimated that the following contribution had been made to the Society during September :—

Annual Report of the Botanic Station St. Kitts-Nevis for 1901-1902.

Agricultural News. A Fortnightly Review of the Imperial Department of Agriculture for the West Indies, Vol. I, Nos. 9 and 10.

The Tropical Agriculturist. Edited by A. M. J. Ferguson, Vol. XXII, No. 3.

The Indian Forester. Edited by J. W. Oliver, Vol. XXVIII, No. 9.

West Indian Bulletin, Vol. III, No. 2.

Bulletin of the Botanical Department, Jamaica, Vol. IX, Part 8. Edited by William Fawcett, B.Sc., F.L.S.

Damman & Co. Bulb Catalogue.

Planting Opinion, Vol. VII, Nos. 36, 37, 38 and 39.

Gardeners Chronicle, Vol. XXXII, Nos 815, 16, 17, 18. (Purchased.)

The following seeds and plants were received during August :—

The Curator, Botanic Gardens, Grenada, West Indies.

1 packet of *Chrysalidocarpus lutescens*.

The Curator, Botanic Gardens, Straits Settlement.

17 packets of seeds.

Conservator of Forests, Rangoon.

1 box of seeds of *Dendrocalamus strictus*.

Superintendent, Royal Botanic Gardens, Sibpur, Calcutta.

2 lbs. of *Dendrocalamus strictus*.

Curator, Government Botanic Gardens, Ootacamund.

6 *Phoenix canariensis*.

1 *Morea Robinsoniana*.

2 *Do. irioides*.

1 *Hedychium coronarium* (white).

1 *Do. do.* (yellow).

3 *Boehmeria nivea*.

3 *Do. do. var. tenuissima*.

4 *Brucea Sumatrana*.

1 *Pleroma Macrantha*.

1 packet seeds of *Streletzia reginæ*.

Curator, Botanic Gardens, Grenada, West Indies.

1 packet of seed *Licuala grandis*.

Director, Botanic Gardens, Berlin, Germany.

2 packets of seed of *Amomum Mala*.

The following plants and seeds were sent out :—

G. H. Krumbeigal, Esq., State Gardens, Baroda.

- 2 *Phœnicophorum Sechellarum*
- 1 *Rhopaloblasta Hexandra*.
- 1 *Drymophlæus ceramensis*.
- 1 *Thrinax altissima*.
- 1 *Pinanga globosa*.
- 4 *Nipa fruticans*.
- 1 *Cocos Australis*.
- 1 *Areca triandra*.
- 2 *Oreodoxa oleracea*.
- 1 *Crinum pedunculatum*.
- 4 *Erythrina umbrosa*.
- 4 *Canna edulis*.
- 4 *Trachelobium Heynemanianum*.
- 4 *Cæsalpinia digyna*.

1 packet of seed of *Dendrocalamus strictus* to the following gentlemen :—

Superintendent, State Gardens, Baroda.

- Do. Victoria Gardens, Bombay.
- Do. State Gardens, Gwalior.
- Do. Guindy Park, Madras.
- Do. Lal Bagh, Bangalore.
- Do. Government Gardens, Kooshroobagh, Allahabad.
- Do. Government Agri-Horticultural Gardens, Lahore.
- Do. Government Botanical Gardens, Saharanpur.

Director, Botanical Gardens, Pondicherry.

- Do. of Agriculture and Commerce, Cawnpore.
- Do. Government Museum and Public Garden, Trivandrum.
- Do. Royal Gardens, Kew.
- Do. Royal Botanic Gardens, Glasgow, Scotland.
- Do. do. Edinburgh, Scotland.
- Do. do. Glasnevin, Dublin, Ireland.
- Do. Botanic Gardens, St. Petersburg, Russia.
- Do. Department of Agriculture, Madagascar.
- Curator, Government Botanic Gardens, Ootacamund.
- Do. Botanic Gardens, Cambridge, England.

Rainfall.—The rainfall during the month was 5·97 inches. The number of rainy days was 12.

Notes by the Superintendent.

Flower Beds.—The six flower beds bordering the broad walk at the main entrance have been cleared away and turf has been laid down. The beds around the ornamental tank in the centre of the gardens are all looking gay with Orchid-flowering Cannas. I find *Asia*, *Africa*, *Britannia*, *Nandin* and *Madame Crozy* the best for bedding out. A *Stephanotis* planted against No. I House and having a south-east aspect is growing vigorously, and is bearing fruit, self-fertilised. This is worth noting as a very uncommon occurrence in Madras, although on the West Coast, I believe they fruit freely.

The following were proposed and elected Members during the month :—

Mrs. PHILIPS.—B Class.
 J. H. M. RYAN, Esq.—A Class.
 B. E. AVADIA PILLAY, Esq.—B Class.
 E. D. M. HOOPER, Esq.—A Class.
 H. J. THOMSON, Esq.—A Class.
 Mrs. TWIGG.—A Class.

Appended is the Balance-Sheet for the 3rd quarter.

J. L. WALKER,
Honorary Secretary.

Proceedings of the Agri-Horticultural Society, Madras, for October, November and December, 1902.

A Meeting of the Committee was held on the 13th October, 1902, at which the following members were present:—

| | |
|---|---|
| The Hon'ble Mr. Justice R. S. BENSON, <i>Chairman</i> . | The Ven'ble Archdeacon A. A. WILLIAMS. |
| W. H. OAKES, Esq. | J. L. WALKER, Esq., <i>Honorary Secretary</i> . |
| L. E. KIRWAN, Esq. | A. L. HANNAY, Esq. |
| H. E. HOUGHTON, Esq., <i>Honorary Treasurer</i> . | G. NARAYANASAWMY CHETTY, Esq. |
| N. SUBRAHMANYAM, Esq. | |

The terms of an agreement with Mr. B. F. Cavanagh, as Superintendent for a further period of 3 years from the 17th January, were discussed, and the Honorary Secretary was instructed to circulate a Draft Agreement to the Committee for approval.

The Honorary Secretary then intimated that the following publications had been received during October:—

The Proceedings of the Agri-Horticultural Society of India, for April to June, 1902.

Lloyd Library. Bulletin No. 5, Mycological Series No. 2, Mycological notes, by C. C. Lloyd, Esq.

Central Experimental Farm, Ottawa, Canada. Bulletin No. 40. Clover as a fertilizer, by William Saunders, LL.D., and Frank T. Shielt, M.A.

U. S. Department of Agriculture. Experimental Station Record, Vol. XIV, No. 1.

Chronographical Table of Tobacco in America, Asia, Africa, India and Europe, by Prof. A. Comes.

Agricultural Ledger, 1901, No. 14, Index.

Do. do. 1902, No. 4, Arsenic.

Do. do. No. 5, Alkalis.

Do. do. No. 6, *Æschynomene* sp.

Do. do. No. 7, *Asphodelus tenuifolius*.

Agricultural imports of the United States, 1896—1900. Bulletin No. 24 and Distribution of the Agricultural Exports of the United States, 1896—1900. Bulletin No. 25, by Frank H. Hitchcock.

Planting Opinion, Vol. VII, Nos. 40, 41, 42 and 43.

Agricultural Bulletin of the Straits, and F. M. S., Vol. I, Nos. 11 and 12, edited by H. N. Ridley, Esq., M.A., F.L.S.

Department of Land Records and Agriculture, Central Provinces. Season and Crop report for the year 1901-1902.

Annual Note on Crop experiments in Assam, for the year 1901-1902, by R. C. Allan, Esq., B.A., I.C.S.

Report on the management of the District Gardens in the Central Provinces, for the year 1901-1902.

Agricultural News from the Imperial Department of Agriculture for the West Indies, Vol. I, Nos. 13 and 14.

The Tropical Agriculturist, Vol. XXII, No. 4.

The Indian Forester, Vol. XXVIII, No. 10, edited by J. W. Oliver, Esq.

Report of the Proceedings of the Royal Colonial Institute, Vol. XXXIII, 1901-1902.

Proceedings of the Nilgiri Agri-Horticultural Society, 5th September, 1902.

Annual Report of the Natal Botanic Gardens and Colonial Herbarium for 1901-1902, by J. Medley Wood, Esq., A.L.S.

Bulletin of the Botanical Department, Jamaica, Vol. IX, Part 8.

Curtis's Botanical Magazine, Vol. LVIII, No. 694. (Purchased.)

Gardener's Chronicle, Vol. XXXII, Nos. 819, 820, 821, 822 and 823. (Purchased.)

Vilmorin-Andrieux & Co., Catalogue of Gladiolus roots for 1902-1903.

Damann & Co., General Price List, 1902-1903.

The following plants and seeds were received during the month, and acknowledged by the Honorary Secretary:—

R. L. Proudlock, Esq., Government Gardens, Ootacamund.

1 packet of seeds of *Strelitzia Reginæ*.

The Director of Botanic Gardens, Berlin.

2 packets of seeds of *Amomum mala*.

C. Michie-Smith, Esq., Kodaikanal.

1 packet of *Lilium Nilghirriense*.

A. P. Millar, Esq., Sivaganga.

6 ozs. *Pennisetum cenchroides* var. *echinoides*.

C. A. Barber, Esq., Government Botanist, Chepauk, Madras.

16 seeds of *Cocos* Sp.

F. M. Pritchard, Esq., Yercaud.

1 packet of *Anona cherrimoyer*.

The following plants and seeds were distributed to Botanic and other Gardens during the month under review:—

H. S. Ferguson, Esq., Director of Public Gardens and Museum, Trevandrum.

2 ozs. of *Pennisetum cenchroides* var. *echinoides*.

Regius Keeper, Royal Botanic Gardens, Edinburgh

10 packets of seeds.

The Superintendent, Victoria Gardens, Bombay.

26 packets of seeds.

The Director of Agriculture, Saigon, Cochin-China

16 packets of seeds.

The Director, Botanic Gardens, Singapore, Straits Settlement.

9 packets of seeds.

Budget Estimate.

Read the following letter :—

From THE HONORARY SECRETARY,

Agri-Horticultural Society, Madras,

To THE CHIEF SECRETARY TO THE GOVERNMENT OF MADRAS,

Ootacamund.

SIR,—I have the honour to submit herewith our Budget estimate for 1903 and 1904 and Accounts for 1901-1902.

I have the honour to be,

Sir,

Your most obedient servant,

(Signed) J. L. WALKER,

Honorary Secretary.

DETAILED ACCOUNT No. 26.—GOVERNMENT SCIENTIFIC, ETC.,
DEPARTMENT, BOTANIC AND OTHER PUBLIC GARDENS.

| RECEIPTS. | Budget Estimate, 1903-1904. | Revised Estimate, 1902-1903. | Budget Estimate, 1902-1903. | Account. | |
|--|-----------------------------------|------------------------------------|-----------------------------------|----------|-------|
| | RS. | RS. | RS. | RS. | A. P. |
| Agri-Horticultural Gardens, Madras .. | 4,000 | 4,000 | 4,000 | 4,000 | 0 0 |
| By Government monthly and extra grant | 3,500 | 3,500 | 3,500 | 3,500 | 0 0 |
| „ Do. Flower Show do .. | 500 | 500 | 500 | 500 | 0 0 |
| „ Sale of Seeds and Flowers .. | 1,500 | 1,500 | 1,500 | 2,137 | 3 3 |
| „ Plants and Fruit trees .. | 1,700 | 1,700 | 1,700 | 2,933 | 7 2 |
| „ Commission on sale of Guano .. | 100 | 100 | 100 | 73 | 2 0 |
| „ Sundries including packing and shipping charges .. | 1,550 | 1,600 | 1,550 | 1,816 | 6 9 |
| „ Subscription from Members .. | 1,800 | 1,800 | 1,800 | 1,886 | 4 0 |
| „ Sale of Admission tickets for Flower Show .. | 900 | 900 | 900 | 987 | 12 0 |
| „ Interest on floating account .. | 25 | 40 | 25 | 27 | 4 10 |
| Total ... | 11,575 | 11,640 | 11,575 | 13,861 | 8 0 |

| EXPENDITURE. | Budget Estimate, 1903-1904. | Revised Estimate, 1902-1903. | Budget Estimate, 1902-1903. | Account. | |
|--|-----------------------------------|------------------------------------|-----------------------------------|----------|-------|
| | RS. | RS. | RS. | RS. | A. P. |
| To Pay of Establishment | 4,600 | 4,600 | 4,600 | 4,328 | 13 2 |
| „ Do. of Coolies | 1,000 | 1,000 | 1,000 | 1,176 | 9 6 |
| „ Seeds purchased | 600 | 700 | 600 | 848 | 13 9 |
| „ Plants purchased | 700 | 700 | 700 | 2,027 | 3 5 |
| „ Pots, manure, sand, etc... .. | 500 | 500 | 500 | 518 | 1 1 |
| „ Red Hills Water-supply | 550 | 600 | 550 | 522 | 14 0 |
| „ Rail, shipping and packing charge .. | 800 | 1,000 | 800 | 964 | 11 8 |
| „ Books and Periodicals | 50 | 50 | 50 | 42 | 5 0 |
| „ Printing and Advertisement | 350 | 300 | 350 | 331 | 4 4 |
| „ Flower Show | 1,300 | 1,300 | 1,300 | 1,074 | 7 1 |
| „ Building and petty repairs | 1,000 | 800 | 1,000 | 426 | 14 1 |
| „ Garden requisites | 300 | 300 | 300 | 334 | 6 6 |
| „ Sundries including carr. and cart hire | 50 | .. | 50 | 93 | 8 0 |
| „ Audit fees | 85 | .. | 85 | 85 | 0 0 |
| „ Quit-rent and Municipal tax | 30 | 50 | 30 | 22 | 14 0 |
| „ Postage and Stationery | 250 | 170 | 250 | 241 | 2 6 |
| Total .. | 12,165 | 12,070 | 12,165 | 13,039 | 0 1 |

A large number of plants were purchased to meet unusual demands during the year 1901-1902.

(Sd.) J. L. WALKER,
Honorary Secretary.

ORDER No. 883, FINANCIAL, dated 5th November, 1902.

The usual grant of Rs 4,000 to the Madras Agri-Horticultural Society will be entered in the Budget for 1903-1904.

The special allotment (Rs. 500 for prizes) will not however be disbursed in the event of the Annual Flower Show not being held in 1904.

(True Extract.)

(Sd.) A. T. PRINGLE,
for Chief Secretary.

Distribution of Annual Supply of Seeds.—During the month, our last and largest consignment of flower and vegetable seeds was received from Messrs. Veitch & Sons, Messrs. Carter & Co. and Messrs. Sutton & Sons. Part of these were distributed to members in the usual way, the remaining stock being kept for general sale.

The Weather.—The weather, on the whole, has been good. The sun was still very powerful for the time of the year, but happily its effects were counteracted by the quantity of rain which fell, keeping the ground moist and in good condition. There were in all 16 rainy days, with a total fall of 17·91 inches.

The heaviest fall of rain during the month was on the 28th October when 7·84 inches were registered in the Gardens.

New Members.—The following ladies joined the Society during the month :—

Mrs. J. Crossley Jones—B Class.

Mrs. G. W. Dance—A Class.

Circulated.

FROM THE HONORARY SECRETARY,

Friend-in-Need Society, Madras,

TO THE HONORARY SECRETARY,

Agri-Horticultural Society, Madras.

DEAR SIR,—As this Society finds it difficult to provide sufficient labour for all the men on its labour yard list, I am directed to enquire whether you could employ a few of the men at your gardens. The Society is willing to pay their usual wages—3 annas per day, so you will have the labour free.

If you find the men worthy of pay, however, and are willing to give any, this Society would be glad to be relieved of the expenses to that extent.

Should you kindly consent to this arrangement, each man sent will be provided with a ticket on which it is requested the date and hours of attendance may be noted.

Yours faithfully,

C. GAHAN,

Honorary Secretary.

The Honorary Secretary replied that the letter would be placed before the Committee.

Owing to the inconvenience caused by the office being under repair the letter was circulated instead.

The scheme was generally approved of by the Committee Members in the following note :—

The Gardens are a long way from the Friend-in-Need Home, but if distance presents no difficulties, the scheme might be given a trial. If the men take to the work, I think we might double the pay given by the Friend-in-Need Society.

On November 22nd, 4 men were started at work here, a plot of ground in the Nursery being given to them to dig, weed, and plant up with annuals.

The following publications were received during November :—

Lloyd Library of Botany, etc. Bulletin No. 4, Pharmacy Series No. 1.

Acta, Horti, Petropolitani, Tomus XIX. Fasciculus III.

Records of the Botanical Survey of India, Vol. II, Nos. 1, 2 and 3, and Index to Vol. I.

Planting Opinion, Vol. VII, Nos. 44, 45, 46 and 47.

Land Records Administration Report for the year ending 30th June, 1902.

Annual Report of Botanic Gardens and Domains, Jamaica, for the year 1901.

Annual Report on the Cultural Dyeing, and Breeding operations, conducted on Experimental Farms and Gardens in the Bombay Presidency, for the year ending 31st March, 1902.

Report on the Agricultural branch of the Department of Land Records, and Agriculture, Bengal, for the year ending 31st March, 1902.

The Indian Forester, Vol. XXVIII, No. II, edited by J. W. Oliver, Esq.

The Tropical Agriculturist, Vol. XXII, No. 5, edited by A. M. and J. Ferguson.

The Journal of the Royal Horticultural Society, Vol. XXVII, Part I, edited by the Rev. W. Wilks, M.A., *Secretary*.

Curtis's Botanical Magazine, Vol. LVII, No. 695. (Purchased.)

The Gardener's Chronicle, Vol. XXXII, Nos. 824, 825, 826, 827 and 828. (Purchased.)

The following plants and seeds were received during the month under review :—

The Superintendent, Guindy Park, Madras.

1 packet seeds of *Phalaria laurifolia*.

H. N. Ridley, Esq., M.A., Director, Botanic Gardens, Singapore.

1 box of seeds of *Livistona altissima*.

The following seeds and plants were sent out to Botanic and other Gardens during the month under review :—

Stanley Arden, Esq., Superintendent, Experimental Plantations, Federated Malay States

24 packets of seeds.

The Director, Imperial Botanic Gardens, St. Petersburg, Russia.

14 packets of seeds.

Syed Hussain Bilgrami, Esq., 2nd Talukdar, Raichur.

10 seeds of *Anona cherimoyer*.

1 packet of seed of *Livistona altissima* was sent to the following :—

G. H. Krumbiegel, Esq., Superintendent, State Gardens, Baroda.

The Superintendent, State Gardens, Gwalior.

John Cameron, Esq., Superintendent, Lal Bagh, Bangalore.

The Superintendent, Government Gardens, Kushroobagh, Allahabad.

The Superintendent, Government Agri-Horticultural Gardens, Lahore.

The Superintendent, Government Botanical Gardens, Saharanpore.

The Director, Botanic Gardens, Pondicherry.

H. S. Ferguson, Esq., Director, Public Gardens and Museum, Trivandrum.

R. L. Proudlock, Esq., Curator, Botanic Gardens, Ootacamund.

The Director, Royal Gardens, Kew.

The Director of Agriculture, Madagascar.

F. W. Moore, Esq., Royal Botanic Gardens, Glasnevin, Dublin.

W. Burbidge, Esq., Trinity College, Dublin.

The Weather.—The day temperature was rather above the average for this time of the year, and the rainfall was also less ; there were 12 rainy days with a total rainfall 9·24 inches.

Superintendent's Notes.

A new walk, 50 yards long and 5 feet wide, was made from the east corner of the Conservatory running to the right of the *Antiaris toxicaria* and an *Ixora parviflora* to join the Cathedral boundary walk. Several *Cycas circinalis* were removed.

Catesbæa spinosa (spinose lily thorn). A fine specimen of this Rubiaceous shrub which was being damaged by its proximity to a *Kigelia pinnata* was lifted and planted in the west corner of the Gardens behind the Aroid House, where it is now doing well.

Another large piece of the *Bauhinia* arcade has been removed, lessening the heavy dull appearance of this part of the Gardens, and a good specimen of *Securidaca Tavoyana* has been given more freedom thereby.

Plant Auction.—It was decided to hold an auction of plants in the Nursery Gardens, with the primary object of encouraging the love of gardening. With this object in view, all the plants were neatly labelled. Another motive was the reduction of the general stock of plants, the intention being to invest the proceeds in some fine specimen crotons, of which the gardens

were badly in need. The auction took place on the 25th of October, and was fairly well attended. It resulted in a total of Rs. 206-11-6 being realised.

Owing to the good results of the auction it was decided to hold another later on in the year.

New Members.—One gentleman joined the Society during the month under review, *viz.* :—

Sree Raja A. V. Jugga Row—A Class.

The following publications were received during the month under review :—

Queensland Agricultural Journal, Vol. XI, Part 5.

The Indian Forester, Vol. XXVIII, No. 12, edited by J. W. Oliver, Esq.

Do. Index Vol. XXVIII, 1902.

West Indian Bulletin, Vol. III, No. 3.

Bullettino Del Laboratorio Ed. Arts Botanico Anno Quinto fascicolo I—III.

Agricultural Bulletin of the Straits, and Federated Malay States, Vol. I, No. 13, edited by H. N. Ridley, Esq., M.A., F.L.S.

U. S. Department of Agriculture, Experiment Station Record, Vol. XIII, No. 12.

Planting Opinion, Vol. VII, Nos. 48, 49, 50 and 51.

Annual Report of the Civil Veterinary Department, Bengal, and of the Bengal Veterinary College for the year 1901-1902.

Annual Report of the Botanic Station, Grenada, West Indies, 1901.

Annual Report on the Gardens of His Highness Maharana Fateh Singhji Bahadur, G.C.S.I., for the year 1901-1902.

Circulars and Agricultural Journal of the Royal Botanic Gardens, Ceylon, Vol. II, No. 2, with further observations on *Helopeltis*.

Report on the Cawnpore Farm and other Experimental Stations in the United Provinces of Agra and Oudh for the year ending June 30th, 1902.

Journal D'Agriculture Tropicale, No. 17, edited by J. Velbouchvitch, Esq., Paris.

Report on the Operations of the Department of Land Records and Agriculture (Madras Presidency) for the official year 1901-1902.

Semi-Annual Report of Messrs. Schimmel & Co., London and New York, October and November 1902.

Imperial Department of the West Indies Agricultural News, Vol. I, No. 15.

Agricultural Statistics of the Lower Provinces of Bengal for 1901-1902.

The following plants and seeds were received during the month under review :—

The Director, Botanic Gardens, Berlin, Germany.

35 packets of seeds.

The Superintendent, Guindy Park.

Fruits of the seeding Breadfruit.

The Director, Jardin Botanic De Buenos-Aires, South America.

26 packets of seeds including *Pithecolobium polycephalum* (a new coffee shade tree).

The Conservator of Forests, Darjeeling, Bengal Forest Department.

1 lb. of seeds of *Arundinaria Hookeriana*.

The following seeds and plants were sent out during the month of December :—

F. W. Moore, Esq., Royal Botanic Gardens, Glasnevin, Dublin.

1 packet of seeds of *Livistona altissima*.

His Excellency the Governor of Madras, Guindy Park.

2 plants of *Ravenala Madagascariensis*.

1 „ *White Antigone*.

3 „ *Agave vivipara* var. *variegata*.

6 „ *Vanilla planifolia*.

1 „ *Landolphia Kirkii*.

1 „ *Michelia champaca*.

1 „ *Tabernaemontana usambariensis*.

2 „ *Psidium Erythrina*.

1 „ *Francisia uniflora*.

1 „ *Sapindus saponaria*.

1 „ *Diospyros decandra*.

2 „ *Hippocratia Indica*.

1 „ *Amomum* sp.

1 „ *Acacia Maidenii*.

1 „ *Villebrunea integrifolia*.

1 „ *Gardinia florida*.

1 „ „ *Thunbergia*.

1 „ *Erythrina lithosperma*.

2 „ *Olea diœcœ*.

1 „ *Castilloa elastica*.

1 „ *Durio Zebithinus*.

The Weather.—The weather has been seasonable. The day temperature averaged about 80° Fhr. and on several nights the glass registered a temperature of 66° Fhr. There were 6 rainy days, totalling 6·50 inches.

Garden work.—The piece of ground in the Nursery which has been used for the last two years as a Show ground, has been improved by the removal of several trees.

The following trees were cut down:—

- 1 Adenanthera pavonina.
- 2 Berrya ammonilla.
- 1 Poinciana regia.
- 1 Barringtonia racemosa.
- 1 Ficus Indica.
- 1 Inga dulcis.
- 2 Bignonia Megapota mica.

The lopping of several other trees was also attended to. On the west side of the broad path which traverses this ground wire trellis 12 feet high was erected, against which a collection of good climbers has been planted. These are well established, and are making good growth.

It is intended eventually to make this act as a screen, under which ferns and other delicate plants may be grown.

In the open compound at the extreme east of the Nursery a few useful trees have been planted, and in another corner a collection of grasses has also been planted out, and to this it is intended shortly to add as complete a collection of fibre yielding plants, as can be got together.

J. L. WALKER,
Honorary Secretary.

Financial Statement, October to December 1902.

47

| RECEIPTS. | | Rs. | A. P. | DISBURSEMENTS. | | Rs. | A. P. |
|--|----|-------|-------|---|-----------|-------|-------|
| By Balance with Bankers on 30th Sept., 1902 | .. | 1,719 | 2 | To Superintendent's salary | .. | 675 | 0 |
| " Do. on hand, General Cash, 30th Sept., 1902. | .. | 55 | 5 | " Office and Garden establishment | .. | 544 | 13 |
| " Do. do. Petty Cash, 30th Sept., 1902. | .. | 268 | 5 | " Permanent and temporary Garden coolies | .. | 379 | 13 |
| " Security of Cashier with Messrs. Arbuthnot & Co., 30th Sept., 1902 | .. | 750 | 0 | " Garden requisites | .. | 355 | 0 |
| " Sales of Seeds, Plants and Flowers | .. | 3,065 | 1 | " Seeds, Plants and Flowers | .. | 840 | 2 |
| " Subscriptions from Members | .. | 506 | 8 | " Charges recoverable | .. | 464 | 12 |
| " Government Grants | .. | 750 | 0 | " Flower Show | .. | 3 | 14 |
| " Out-door work of laying Gardens, etc. | .. | 231 | 8 | " Petty charges | .. | 27 | 12 |
| " Security of Seeds' clerk | .. | 200 | 0 | " Postage and Stamps | .. | 62 | 4 |
| " Banker's interest to 31st December, 1902 | .. | 16 | 13 | " Printing and Stationery | .. | 221 | 12 |
| | | | | " Advertisement | .. | 62 | 6 |
| | | | | " Books and Periodicals | .. | 29 | 1 |
| | | | | " Red Hills Water-supply | .. | 262 | 9 |
| | | | | " House, Water and Lighting tax | .. | 46 | 0 |
| | | | | " Audit Fees | .. | 50 | 0 |
| | | | | " Repairs to Office Building | .. | 1,000 | 0 |
| | | | | " Furniture and Plant | .. | 25 | 0 |
| | | | | " Suspense account | .. | 39 | 13 |
| | | | | " Security of Seeds' clerk deposited in Post Office Savings Bank | .. | 200 | 0 |
| | | | | " Security of Cashier with Messrs. Arbuthnot & Co. on 31st December, 1902 | .. | 750 | 0 |
| | | | | " Balance with Bankers on 31st December, 1902. | .. | 1,322 | 7 |
| | | | | " Do. on hand, Petty Cash, on 31st Dec., 1902. | .. | 200 | 0 |
| | | | | | RUPEES .. | 7,562 | 12 |
| | | | | | | | 6 |

Audited and found correct.

J. L. WALKER,
Honorary Secretary.

H. E. HOUGHTON,
Honorary Treasurer.

THOS. CRONAN,
Auditor, A.-H.S.

MADRAS,
10th January, 1903.

**The Proceedings of the Annual General Meeting
of the Members of the Agri-Horticultural
Society of Madras for the year 1902-1903, held
on the 31st March, 1903, at 7-30 a.m.**

PRESENT :

The Hon'ble Mr. H. BRADLEY, I.C.S., *Chairman.*

The Ven'ble Archdeacon A. A. WILLIAMS.

H. E. HOUGHTON, Esq., *Honorary Treasurer.*

C. SOWDEN, Esq.

The Hon'ble Mr. Justice R. S. BENSON, I.C.S.

L. E. KIRWAN, Esq., *Honorary Secretary.*

V. DESIKA CHARIAR, Esq.

G. NARAYANASWAMY CHETTY, Esq.

Lieut.-Col. R. F. R. FORMBY, I.A.

Proposed by Mr. G. Narayanaswamy Chetty, seconded by Mr. H. E. Houghton and carried unanimously, that the Hon'ble Mr. H. Bradley take the Chair.

Proposed by Mr. G. Narayanaswamy Chetty, seconded by Mr. H. E. Houghton and carried unanimously, that the appended Report be taken as read, and be adopted, printed and published.

Government Grant.—The monthly allowance of Rs. 250, and the extra grant of Rs. 1,000 have been received.

A Budget estimate for 1902-1903 was submitted in August last, and the usual sum of Rs. 4,000 was sanctioned by the Government (*vide* G. O. No. 883, Financial, dated 5th November, 1902). The Committee desire to record their thanks to Government for their liberal grant.

Income and Expenditure.—The income from various sources amounted to Rs. 14,583-13-0 and the expenditure to Rs. 15,354-0-6. Details of these amounts will be found in the statements attached to this Report.

The excess expenditure is accounted for by repairs to the Office building, and improvements to the ornamental gardens.

Weather.—The weather during the year was very favourable, the rainfall having been above the average and well

distributed, chiefly over the latter half of the year, as will be seen by the tabular statement given below :—

Monthly Rain Report for Madras in 1902.

| Months. | Dates on which Rain fell. | Inches and Cents. |
|--------------------------------|---|-------------------|
| January .. | 6th, 7th and 8th | 1·28 |
| February .. | 13th.. | 0·05 |
| March .. | <i>Nil</i> | .. |
| April .. | 22nd.. | 0·02 |
| May .. | 13th.. | 0·17 |
| June .. | 9th, 12th, 14th, 20th and 21st .. | 0·54 |
| July .. | 2nd, 3rd, 10th, 12th, 15th, 20th, 28th, 29th and 31st | 4·77 |
| August .. | 3rd, 4th, 11th & 12th, 15th to 20th, 23rd to 25th and 30th | 3·26 |
| September .. | 4th to 8th, 10th, 11th & 13th, 18th and 19th, 27th and 28th | 4·65 |
| October .. | 6th to 11th, 16th, 22nd to 24th, 26th to 31st | 20·67 |
| November .. | 3rd, 7th, 8th, 9th, 13th, 14th, 17th to 21st, 27th to 29th | 10·53 |
| December .. | 3rd, 4th, 6th, 8th, 9th and 26th .. | 9·18 |
| Total number of rainy days 82. | | 55·12 |

Water-supply.—The quantity of water drawn from the Red Hills supply was less than that of last year and several previous years, owing to the favourable rains. The total quantity utilised for both gardens was 34,85,800 gallons at a cost of Rs. 527-7-1, a decrease of Rs. 295-6-11 as compared with the preceding year.

Table showing the amount of water consumed each month.

| Months. | Ornamental and Nursery Gardens. |
|-------------------|---------------------------------|
| January | 98,000 |
| February | 230,900 |
| March | 299,400 |
| April | 465,000 |
| May | 548,100 |
| June | 496,600 |
| July | 268,700 |
| August | 339,100 |
| September | 246,000 |
| October | 195,200 |
| November | 87,000 |
| December | 166,800 |
| Total gallons .. | 34,85,800 |

Office Building.—The whole of this building has been thoroughly repaired. The walls have been raised two feet and an entirely new roof of teakwood and Mangalore tiles has replaced the old one of palmyrah and pan tiles. The design of the roof has been altered and the appearance of the building much improved.

Library.—The following books and periodicals have been bound, and placed in the library during the year:—

Annals of the Royal Botanic Gardens, Calcutta, Vols. I and II.

A Hand-book to the Flora of Ceylon.

Iconography of Australian Solonaceous Plants.

Journal of the Royal Horticultural Society, Vols. 23, 24, 25 and 26.

West Indian Bulletin, Vol. II.

Exchanges.—During the year under review, we have had the opportunity of sending out seeds and plants to numerous correspondents and Botanic Gardens according to the sub-joined list, and we have received seeds and plants in exchange for experimental cultivation in these gardens. We take this opportunity of thanking the following correspondents for their generous donations:—

| | | |
|--------------|-----|---|
| Allahabad | ... | ...The Superintendent, Government Gardens. |
| Bangalore | ... | ...John Cameron, Esq., F.L.S. |
| Barbados | ... | ...Dr. D. Morris, Imperial Agricultural Department. |
| Baroda | ... | ...G. H. Krumbiegel, Esq., Superintendent, State Gardens. |
| Bobbili | ... | ...His Highness the Maharajah. |
| Bombay | ... | ...The Superintendent, Victoria Gardens. |
| Buenos Ayres | ... | ...The Director, Jardin Botanico. |
| California | ... | ...The College of Agriculture. |
| Calcutta | ... | ...Major D. Prain, M.B., etc., Superintendent, Royal Botanic Gardens. |
| Calcutta | ... | ...P. Lancaster, Esq., Secretary of Agricultural Society of India. |
| Cambridge | ... | ...The Curator, Botanic Gardens. |
| Cape Town | ... | ...The Director of the Corporation of the City Public Gardens. |
| Cawnpore | ... | ...The Director, Department of Agriculture and Commerce. |
| Coimbatore | ... | ...E. Gadsden, Esq. |
| Coonoor | ... | ...T. J. Ferguson, Esq. |
| Darjeeling | ... | ...The Bengal Forest Officer. |
| Dublin | ... | ...W. Burbidge, Esq., Trinity College. |
| Edinburgh | ... | ...The Regius Keeper, Botanic Gardens. |
| Ettyapuram | ... | ...The Zemindar. |
| Germany | ... | ...The Curator, Botanic Gardens. |
| Glasgow | ... | ...The Director, Royal Botanic Gardens. |

| | | |
|--------------------|-----|--|
| Glasnevin | ... | The Director, Royal Botanic Gardens. |
| Grenada | ... | ...Walter E. Broadway, Esq., Curator, Botanic Gardens. |
| Gwalior | ... | ...The Superintendent, State Gardens. |
| Jamaica | ... | ...The Director, Botanic Department. |
| Kew | ... | ...Sir William T. Thistleton Dyer, C.M.G., C.I.E. etc., Director, Royal Botanic Gardens. |
| Kodaikanal | ... | ...C. Michie Smith, Esq. |
| Krakowie | ... | ...The Director, Botanic Gardens. |
| Kumbakonam | ... | ...C. R. Lakshmi Varahu Iyer, Esq. |
| Kurupam | ... | ...The Rajah. |
| Lahore | ... | ...The Superintendent, Government Agricultural Gardens. |
| Lagos | ... | ...The Curator, Botanic Station. |
| Madagascar | ... | ...The Director of Agriculture. |
| Madras | ... | ...Miss C. Burns; Lieut.-Col. J. Maitland, I.M.S.; Mrs. F. M. Robinson; W. H. Oakes, Esq.; Kenworthy Brown, Esq.; The Superintendent, Guindy Park; C. A. Barber, Esq., Government Botanist; H. E. Houghton, Esq.; Sisters of Our Lady of Good Help; L. E. Kirwan, Esq., and the Superintendent, Robinson Park. |
| Malay States | ... | ...Stanley Arden, Esq., Superintendent, Experimental Plantations. |
| Mussourie | ... | ...The Director, Botanic Gardens. |
| Madura | ... | ...The District Forest Officer. |
| Nellathoor | ... | ...The Zemindar. |
| Ootakuli | ... | ...The Zemindar. |
| Ottawa | ... | ...The Domain Botanist, Botanic Station. |
| Ootacamund | ... | ...R. L. Proudlock, Esq., Curator, Government Botanic Gardens. |
| Parlakimidi | ... | ...The Rajah. |
| Polavaram | ... | ...The Zemindar. |
| Pondicherry | ... | ...The Director, Botanic Gardens. |
| Pudukotta | ... | ...The Dewan. |
| Raichoor | ... | ...Syed Hoossain Bilgrami, Esq. |
| Rangoon | ... | ...B. Noble, Esq., Superintendent, Agricultural Society. |
| Rangoon | ... | ...The Conservator of Forests. |
| Saigon | ... | ...The Director of Agriculture. |
| Saharanpore | ... | ...W. Gollan, Esq., Superintendent, Government Botanic Gardens. |
| Singapore | ... | ...The Curator, Botanic Gardens. |
| Singapore | ... | ...The Director, Imperial Botanic Gardens. |
| St. Petersburg | ... | ...The Director, Imperial Botanic Gardens. |
| Sydney | ... | ...The Curator, Botanic Gardens. |
| Sivaganga | ... | ...A. P. Millar, Esq. |
| Trivandrum | ... | ...H. S. Ferguson, Esq., Director, Public Gardens and Museum. |
| Yelamanchili | ... | ...J. N. Nallaswamy Pillay, Esq. |
| Yercaud | ... | ...S. M. Pritchard, Esq. |
| German East Africa | ... | ...Dr. Franz Stuhlmann. |

The Buildings.—The Office and Library have been overhauled and the much-needed repairs have been thoroughly carried out.

Flower Show.—The 63rd Annual Floral Exhibition was held on the 22nd February in the Nursery Gardens. In the unavoidable absence of the Honorary Secretary, Mr. H. E. Houghton was kind enough to make the necessary arrangements.

The Show was well up to the average of other years, the Annuals being perhaps rather better than in the two previous Shows.

This was to be accounted for by the very favourable rains early in January.

His Excellency the Governor visited the Show and was conducted through the Exhibition by Captain M. Molesworth, I.M.S., and Mr. H. E. Houghton.

The attendance was large and the receipts taken at the gate exceeded those of any previous year.

A full report of the Show is given in the proceedings for February 1902.

The Committee's thanks are due to the gentlemen who undertook the onerous task of judging the various Exhibits at the Show.

Cut Flowers.—The revenue from this source is gradually on the increase, and the demand at times has been in excess of the supply.

During the year 44 crosses and wreaths, and 190 bouquets were sent out.

Nursery Stock.—The demand for nursery plants has been very heavy. *White Antigonon*, *Canna* and *Acalypha hispida* have been in special request. The following plants are on hand ready for sale and distribution :—

| | | | | |
|-----------------------|-----|-----|-----|-------|
| Climbers | ... | ... | ... | 500 |
| Flowering shrubs | ... | ... | ... | 1,950 |
| Avenue and Fuel trees | ... | ... | ... | 2,000 |
| Palms | ... | ... | ... | 1,500 |
| Conservatory plants | ... | ... | ... | 700 |
| Crotons | ... | ... | ... | 350 |
| Economic plants | ... | ... | ... | 600 |
| Ferns | ... | ... | ... | 900 |

Besides the above, the following are in seed-pans and nursery beds :—

| | |
|------------------------------|-------|
| Palms | 5,000 |
| Climbers | 500 |
| Flowering shrubs .. | 3,500 |
| Avenue and Fuel trees | 1,000 |
| Crotons... .. | 1,500 |

Correspondence.—The usual correspondence with foreign and other Botanic Gardens has been maintained, the principal subject of enquiry being Fibres.

Exchange Seed List.—The usual list was revised and 200 copies have been printed and distributed to other Botanic Gardens.

Seeds and Plants distributed to Members and Botanic Gardens and sold during 1902 :—

(To Members)—

| | |
|---|-----|
| Palms | 234 |
| Climbers | 165 |
| Canna | 126 |
| Bamboo | 29 |
| Crotons | 174 |
| Paspalum dilatatum | 200 |
| Timber and Shade trees | 63 |
| Economic plants | 29 |
| Ferns | 97 |
| Flowering shrubs and Foliage plants | 567 |
| Lilies | 89 |
| Vegetable seeds in packets | 489 |
| Do. in tins | 22 |
| Flower seeds in packets | 55 |
| Do. in tins | 80 |

(To Botanic Gardens)—

| | |
|--|-----------|
| Seeds of Timber and other useful trees | 144 pkts. |
| Palm seeds | 34 " |
| Miscellaneous seeds | 87 " |
| Plants | 168 |
| Inga dulcis seeds | 5 lbs. |

(Sold)—

| | |
|--|-----------------|
| Flower seeds | 690 pkts. |
| Do. | 2 tins. |
| Vegetable seeds | 402 pkts. |
| Do. | 1 tins. |
| Indigenous seeds of Trees, Shrubs and Climbers | 51 pkts. |
| Inga dulcis seed | 197 lbs. |
| Lucerne seed | 17 lbs. 2½ ozs. |
| Guinea grass seed | 3 lbs. 12 ozs. |
| Casuarina equisetifolia seed | 16 lbs. |
| Do. plants | 2,900 |
| Hurrialee grass seed | 6 lbs. |
| Cassia auriculata seed | 4½ lbs. |
| Crotons | 286 |
| Roses | 279 |
| Mango grafts, Madras varieties | 58 |
| Do. imported do.. .. | 22 |

| | | | |
|----------------------------------|----|----|---------------|
| Economic plants .. | .. | .. | 257 |
| Caladiums .. | .. | .. | 24 |
| Miscellaneous plants .. | .. | .. | 4,754 |
| Ferns .. | .. | .. | 153 |
| Paspalum dilatatum seed .. | .. | .. | 12 lbs. 1 oz. |
| Saccharum spontanium cuttings .. | .. | .. | 4,800 |
| S. officinarum .. | .. | .. | 5,100 |
| Cuscuta roots .. | .. | .. | 200 |
| Ground nut seed .. | .. | .. | 160 lbs. |
| Seed Potatoes .. | .. | .. | 2 maunds. |

New introductions.—We have been successful in germinating seeds received from other Gardens, among them being some very good palms. A list of plants new to these Gardens raised from seeds, and of plants presented to the Society is given below:—

Ranunculaceæ.

Clematis smilacifolia.

Anonaceæ.

Anona cherimolia.

„ glabra.

Malvaceæ.

Hibiscus Syriacus.

Rutaceæ.

Acronychia Baueri.

Simarubaceæ.

Ailantus grandis.

Brucea Sumatrana.

Meliaceæ.

Amoora rohituka.

Celastrineæ.

Hippocratea Indica.

Leguminosæ.

Acacia catechu.

Piscidia Erythrina.

Gleditschia coccinea.

Myrtaceæ.

Eugenia sp.

Melastomaceæ.

Tibouchina Macrantha.

Passifloreæ.

Passiflora edulis.

„ macrocarpus.

Begoniaceæ.

Begonia Carolina.

„ rex. variety.

Rubiaceæ.

Uganda coffee.

Gardenia sp.

Oleaceæ.

Olea diocea.

Apocynaceæ.

Allamanda neriifolia.

Convolvulaceæ.

Argyreia Wallichii.

Gesneraceæ.

Saintpaulia ionantha.

Acanthaceæ.

Eranthemum macrophyllum.

„ sp.

Labiataæ.

Scutellaria Andamanensis.

Nyctagineæ.

Bougainvillea, sp.

Aristolochiaceæ.

Aristolochia saccata.

Euphorbiaceæ.

Acalypha Godseffiana.

Dalechampia Rozelii.

Urticaceæ.

Boehmeria nivea var. tenacissima.

Orchideæ.

Bletia antirrhiniflora.

Cypripedium Druryi.

„ Spicerianum.

Dendrobium chrysotoxum.

„ Dalhousianum.

„ draconis.

„ Jenkinsii.

„ nobile.

Eulophia virens.

Saccolobium Wightianum

Vanda spathulata.

„ teres.

Scitamineæ.

Maranta picta.

Amomum (from Sikkim).

Musa Arnoldiana.

Alpinia sp.

Bromeliaceæ.

Bilbergia excapa.

Irideæ.

Morea irioides.

| | |
|----------------------------|----------------------------------|
| Morea Robinsonia | Aglaonema versicolor. |
| Palmeæ. | Alocasia Lindenii. |
| Drymophlaeus ceramensis. | Anthurium rigidum. |
| Phœnicophorum Sechellarum. | Schismatoglottis Siamensis. |
| Hyophorbe Verschaffeltii. | Gramineæ. |
| Areca augusta. | Bambusa spinosa. |
| Phœnix Canariensis. | „ Hookeriana. |
| „ dactylifera. | Ferns. |
| „ cycadifolia. | Adiantum Collisii. |
| Didymosperma disticha. | „ tenerum. |
| Livistona altissima. | „ fragrantissima. |
| Cocos sp. | „ hispidulum. |
| Raffia Ruffia. | Asplenium Zeylanicum. |
| Pandaneæ. | Pteris Victoria. |
| Pandanus sp. | Dicksonia flaccida. |
| Cyclanthaceæ. | Nephrodium molle var. corymbosa. |
| Cyclanthus cristatus. | Gymnogramma sp. |
| Aroideæ. | |
| Aglaonema costata. | |

Alterations and improvements have been carried out during the year as follows :—

The Ornamental Gardens.—It having been decided to hold the Flower Show in future in the Nursery Gardens, an opportunity has been afforded of carrying into effect many long-wanted improvements in the Ornamental Gardens.

First of all the walks throughout the Gardens have been attended to, and one or two deviations have been made for the sake of effect. (These changes were finished off by neat turfing where necessary.) A new walk has been made connecting the Cathedral boundary walk with the main walk (by the No. I Plant House).

Special attention has been given to the ground in the south-east corner which formerly was the storing place of palms and other foliage plants, kept for hiring out purposes. These plants have all been moved to the Nursery Gardens, and in their place Japanese bamboos and ornamental plants have been planted out at intervals, the ground between being turfed with *Hurialea* grass. A clearance has been made immediately in front of the oval tank, with the result that pretty peeps of the surrounding shrubbery and of the *Victoria Regia* are now obtainable thence. Cannas were planted out in the flower beds and they continued gay throughout the year. Crotons received special attention, and a start has been made towards forming them into a correctly named collection. Some trees which had been planted out in excess were removed and rarer trees put in their place; and several valuable specimens such as *Securidacca Tavoyana*, *Ravenala*

Madagascariensis, etc., that were being damaged by overcrowding, have had the surrounding growth cut away to their great advantage.

The Nursery Gardens.—The walks in these Gardens have been gravelled. The Show ground has been opened up and improved by the removal of a number of common trees and shrubs. A long wire trellis 12 feet high, facing north, has been erected, and against this a large and varied collection of climbers has been planted.

Agave rigida var. Sisalana.—The piece of ground put under cultivation with these plants is doing well. The plants have a healthy appearance and average about 2 feet in height. In all about 900 plants have been put out in two squares separated by the main avenue. As the square on the north side containing 500 plants is considered sufficient for experimental and stock purposes, it is suggested to part with the rest when a reasonable offer is received, and to utilise the ground for other purposes. A few rows of other fibre yielding plants have also been planted, and it is intended to add to them as opportunity occurs.

List of Fibre plants :—

- Agave Rigida var. Sisalana.
- „ Americana.
- „ „ var. variegata.
- „ vivipara.
- „ „ var. variegata.
- Sansevieria Zeylanica.
- „ Roxburghiana.
- „ Guineensis.
- „ cylindrica.
- Musa textilis (Manilla hemp).

Bæhmeria nivea and *B. nivea var. tenacissima* are growing well in pots, also *Villebrunia integrifolia*. The latter is very healthy and to all appearances will grow well in Madras.

Grasses.—Another section of ground behind the Nurseries has been utilised for grasses. The Guinea grass plot has been cleared away from inside the experimental gardens and 16 rows 78 feet long have been planted on the new site.

Two rows of *Paspalum dilatatum* have also been planted out. Their growth is very robust but somewhat inclined to a procumbent habit. This grass is superior to Guinea grass.

Besides the above, a few rows of the following have also been planted:—Two rows *Panicum spectabile*, one row *Andropogon muricatus*, one row *Andropogon nardus*, and one row *Stenotaphrum Americanum*.

Victoria Regia.—This handsome Lily flourishes in Madras exceedingly, and there are three small pieces of water in the Gardens which are wholly occupied by it. In one tank it has done remarkably well, the average size of the leaves being 7 feet across. Several Members have experimented with it with marked success, notably in the tanks of the “Rutland Gate” and the “Priory” compounds. One peculiarity is noticeable, *viz.*, that while the one specimen is growing in a perfectly open position, the other is in complete shade, and yet both are in excellent health and have developed leaves measuring nearly 8 feet across. The only difference in the two plants is that the one grown in shade is of a deeper green, with the margins well turned up, the underside being of a deeper red; the whole plant also appears to contain more substance. This beautiful Lily is also becoming established in the open tanks of the Robinson and Guindy Parks.

Crotons.—An effort has been made to improve and increase the collection of Crotons. In the cold season of 1901 a number of cuttings were struck, and the best selected and grown on for specimen plants. Careful attention has been given to training the plants to form well-shaped bushes. Besides the varieties propagated a large number were obtained from outside sources, chiefly at auction sales. The collection is now a fairly representative one and a few have been correctly named. The task of naming them all is a difficult one as many have been raised from seeds and no records of their parentage have been kept.

Cocoa.—The specimen in the border at the East end of No. 2 Palm House continues to make strong healthy growth. It was in full flower in September and a number of blossoms were fertilised and a good crop of fruits has been obtained. These are now reaching the ripening stage. Up to the present the plant has remained healthy, there being no sign of any fungoid growth.

Landolphia florida.—This fine West African climber has been a feature of the Nursery Gardens, its profusion of white flowers borne in large bunches being very beautiful. A few plants were obtained early in the year by layering. Later in the year a branch was pulled out from the mass of tangled growth and about 50 layers were made from it. A number of cuttings have been put down, but at present it is impossible to say if they will succeed or not. A few fruits were developed this year for the first time in Madras and it is hoped that these will come to maturity. If they do we can look forward to the plant establishing itself in Madras.

Durian.—The plants raised from seeds received from Rangoon in 1900 unfortunately perished during the hot season. An application was made to Mr. MacMillan, the Curator, Royal Botanic Gardens, Ceylon, who very generously complied with our request and sent us two dozen plants. They were received in bamboo sections, and immediately on arrival were put into deep baskets especially made for them. One has been sent to Robinson Park to be planted on an island in the ornamental water there, and a second has been planted in a sheltered corner in these Gardens. The rest it is intended to nurse through the hot season and distribute to our various correspondents interested in such plants, who will be asked to report on them as to their success or otherwise.

Coffea Arabica.—Four dozen plants were presented to the Gardens by Mr. L. E. Kirwan. The old leaf pits in the south-west corner of the Botanic Gardens have been filled in and the Coffee has been put out in rows 10 feet apart. The site should be admirably suited to the experimental culture of Coffee, the whole ground being not too heavily shaded with *Ficus Indica* and *Parkia biglandulosa*. There are also a few plants of Coffee hybrids of Arabian crossed with Liberian. Seeds of this hybrid were presented by Mr. W. Mackinlay, of Meppadi, Wynaad. These, it is intended also to plant. A noteworthy feature is that none of the Coffee plants in Madras show any sign of leaf-disease.

Flowering Bamboo.—The large clump of *Dendrocalamus gigantea* on the south side of the *Victoria Regia* tank is in flower. The first flowers were seen late in the year. No date as to the planting of this clump is on record, but it would probably date back at least 30 years. This bamboo has not been known to flower before in Madras.

Buddleia Lindleyana was originally introduced into the Gardens 15 years ago but was again lost. Our present stock plant was received from Poona in 1901. It is a very neat and pretty plant and well worth cultivating, being easily propagated from half ripe wood. This particular species is of a dwarf loose habit of growth. Its flowers are small, of a deep purple, shaded off at the mouth of the corolla to a light lilac.

Congea Tomentosa var. azurea has been even finer than last year. The plant has been one blaze of colour, and its flowering branches have averaged one foot in length. We have been very fortunate in the propagation of this plant, and now have a number of small plants ready for distribution.

Tabernæmontana Usambariensis.—There are two good plants of this Zanzibar rubber planted out. They are now 7 feet in height and are looking healthy and strong. A large specimen was presented to Mr J. L. Walker and another to Guindy Park. Both these are doing well. There is no doubt that it is a hardy plant and well suited to the Madras climate.

Porana paniculata.—This is a very pretty climber, better even than the Horse-tail creeper (*Porana volubilis*) which is common in Madras. A plant of the former was presented to the Gardens by Prof. Hastings Page, of the College of Science, Poona. It is very rapid-growing and consequently should be given plenty of room. Its flowering spikes are looser than those of *P. volubilis* and also whiter, thus giving it a more graceful appearance.

Palms—Nipa fruticans.—This specimen was planted in the *Victoria* tank in 1896. It commenced to flower in 1900 and has flowered several times since. After each flowering it dies down and young shoots are thrown out at the base. By this means the plant has developed into a clump and has encroached on the tank to a distance of four feet. It is noted that the plant does not appear to have a tendency to travel further into the tank but keeps close to the bank where the depth of water varies from a few inches to one foot.

Pritchardia pacifica.—In the early part of the year a packet of seeds of this palm was received from the West Indies and 45 plants were successfully raised. Most of these have been sold or distributed. There are, however, 22 left.

Rhopaloblasta hexandra.—A case of these palms was received from the Botanic Gardens, Singapore. They are doing remarkably well, and form a valuable addition to our collection.

LIST OF THE RARER PALMS RAISED FROM SEEDS.

The following are looking strong and healthy:—

Present stock.

- Raffia Ruffia, 6 plants.
- Phœnicophorum Sechellarum, 13 plants.
- Oncosperma fasciculatum, 4 plants.
- Nephrosperma van. Houtteanum, 2 plants.
- Martinezia caryotæfolia, 4 plants.
- Loxococcus rupicola, 1 plant.
- Drymophlæus ceramensis, 7 plants.
- Cyrstostachys renda, 3 plants.
- Calypetrocalyx spicatus, 4 plants.
- Chamaerops excelsa, 4 plants.
- Bactris minor, 2 plants.
- Wallichia caryotioides, 2 plants.

List of Palms presented to the Gardens.

Areca Madagascariensis, 1 plant.
 Cocos Sancona, 2 plants.
 Cocos schizophylla, 1 plant.
 Cocos Weddelliana, 2 plants.
 Hyphæne Thebaica, 1 plant.
 Kentia Belmoriana, 1 plant.
 Pseudophœnix Sargentii, 1 plant.
 Thrinax sp., 1 plant.

Our palm collection is now represented by 47 genera and 82 species.

Committee Members.—During the year under review Dr. A. G. Bourne resigned the Honorary Secretaryship as he was taking long leave, and was succeeded by Mr. J. L. Walker.

Col. the Hon'ble Sir George Moore resigned his office of Chairman as he was going home, and was succeeded by the Hon'ble Mr. Justice R. S. Benson.

It was with deep regret the Committee had to place on record the death of one of its most enthusiastic members, Rao Bahadur A. Dhanakoty Mudaliar.

Ex-officio member.—The Hon'ble Mr. H. Bradley held the office of *ex-officio* member for the first and last quarter of the year.

The Hon'ble Sir Frederick Nicholson was *ex-officio* member in the interval.

Mr. L. E. Kirwan was elected a member of the Committee at a Meeting held on the 29th July.

Subscribing Members.—During the year under review 15 members joined the Society (11 A Class, 4 B Class).

20 A Class and 10 B Class resigned or were on the absentee list.

The total number of members on the roll on December 31st, 1902, was 100, *viz.* :—

76 A Class and 24 B Class.

The following gentlemen were elected as members of the Committee for the ensuing year in addition to the Hon'ble Mr. J. N. Atkinson, *ex-officio* member :—

The Hon'ble Mr. Justice R. S. BENSON, I.C.S.
 The Hon'ble Mr. Justice H. T. BODDAM.
 The Hon'ble Mr. H. BRADLEY, I.C.S.
 The Ven'ble Archdeacon A. A. WILLIAMS.

The Hon'ble Mr. H. A. SIM, I.C.S.
 Lieut.-Col. R. F. R. FORMBY, I.A.
 V. G. LYNN, Esq.
 C. SOWDEN, Esq.
 N. SUBRAHMANYAM, Esq
 G. NARAYANASWAMY CHETTY, Esq.
 R. T. MENZIES, Esq.
 L. E. KIRWAN, Esq., *Honorary Secretary*.
 H. E. HOUGHTON, Esq., *Honorary Treasurer*.

It was proposed by the Ven'ble Archdeacon A. A. Williams, seconded by the Hon'ble Mr. H. Bradley that a cordial vote of thanks be accorded to Mr. J. L. Walker for the great interest he has taken in the Gardens during the past year, and for the many improvements which he has introduced; and also to the Hon. Treasurer, Mr. H. E. Houghton.

Members of the Society on 31st December, 1902.

President :

His Excellency the Right Hon'ble Lord AMPHILL.

Honorary Members :

L. A. Bernays, Esq.
 General J. P. Ferrier.

Sir J. D. Hooker, C.B., etc.

Extraordinary Members.

Benson, Lieut.-Genl. R.
 Bidie, Surgeon-Genl. G., C.I.E.
 Cox, Colonel H. W. H.
 Duff, Sir M. E. Grant, G.C.S.I.

Lawson, Sir Charles A.
 Steavenson, Joseph, Esq., B.A.
 Whiteside, W. S., Esq.
 West, Henry C., Esq.

Subscribing Members (A Class).

Adam, John, Esq.
 Adams, Miss Violet, M.D.
 Ampthill, Lord, His Excellency
 the Right Hon'ble.
 Atkinson, the Hon'ble Mr. J. N.,
 I.C.S.
 Barclay, E., Esq.
 Benson, the Hon'ble Mr. Justice
 R. S., I.C.S.
 Bilderbeck, J. B., Esq.
 Bobbili, H. H. the Maharajah,
 Kt., C.I.E.
 Boddam, the Hon'ble Mr.
 Justice H. T.
 Bourne, Dr. A. G., F.R.S.
 Bradley, the Hon'ble Mr. H.,
 I.C.S.
 Branson, Reddy, Esq.

Buckley, Ll. E., Esq., I.C.S.
 Chatterton, Alfred, Mrs.
 Cowie, D. W. G., Esq., I.C.S.
 Dance, G. W., Mrs.
 Desika Chari, V. C., Esq.
 Davies, the Hon'ble Mr. Justice
 J. A., I.C.S.
 Grant, Douglas, Esq.
 Formby, Lieut.-Col, R. F. R.,
 I.A.
 Gajapathy Row, Maharajah
 Sir G. N., K.C.I.E.
 Greenall, R., Esq.
 Hammick, the Hon'ble Mr. M.,
 C.I.E., I.C.S.
 Hannay, A. L., Esq., I.C.S.
 Henderson, Miss.
 Hooper, E. D. M., Esq.

Houghton, H. E., Esq.
 Jones, R. Ll., Esq.
 Jugga Row Garu, Rajah.
 Kees, W., Esq.
 Kurupam, Rajah of.
 Lynn, V. G., Esq.
 Menzies, R. T., Esq.
 Miller, A. P., Esq.
 Miller, S. C., Esq.
 Moore, Col. The Hon'ble Sir George.
 Mudukrishna Yachandra Bahadur, Rajah V.
 Nair, A. T. M., Esq.
 Napier, A. S., Esq.
 Narayanaswamy Chettyar, G., Esq.
 Norton, the Hon'ble Mr. Eardley J.
 Oakes, A. W. D., Esq.
 Oakes, W. H., Esq.
 Ormerod, H., Esq.
 Orr, Sutherland, Esq.
 Parlakimidi, Rajah of.
 Ponnumbala Pillay.
 Romilly, George, Esq.
 Rosling, A. W., Esq.
 Ryan, J. H. M., Esq.
 Sabapathy Iyah, C., Esq.
 Scott, E., Esq., I.C.S.

Smith, C. Michie, Esq.
 Sim, the Hon'ble Mr. H. A., I.C.S.
 Sowden, Chas., Esq.
 Straker, C. H., Esq.
 Stuart, H. A., Esq., I.C.S.
 Subba Naidu, A., Esq.
 Subrahmanyam, N., Esq.
 Thompson, H. J., Esq.
 Thurston, Dr. Edgar.
 Travancore, H. H. the Mahara-
 jah of, G.C.M.G.
 Turner, W. A., Esq.
 Twigg, Mrs. J. M.
 Venkataramadoss Naidu, S. Esq.,
 Dewan of Pudukottah.
 Wallis, the Hon'ble Mr. J. P.
 Walker, J. L., Esq.
 White, the Hon'ble Chief Jus-
 tice Sir Charles Arnold, Kt.
 Whitehead, the Right Reverend
 Bishop H., D.D.
 Williams, the Ven'ble Arch-
 deacon A. A.
 Winterbotham, the Hon'ble Sir
 Henry M., K.C.S.I., I.C.S.
 Yates, J. A., Esq.
 Zemindar of Ettyapuram
 Do. Ootakuli.
 Do. Polavaram.
 Young, Mrs. J. M.

(B Class Members).

Avadia Pillay, B. E., Esq.
 Burns, C., Miss.
 Coleridge, F. A., Esq.
 Ferguson, T. J., Esq.
 Gifford, Major G. G., I.M.S.
 Hall, A. A., Esq.
 Jones, Mrs. Crossley.
 Kirwan, L. E., Esq.
 Lakshmi Varahu Iyer, C. R.,
 Esq.
 Lawson, A. E., Esq.
 Maitland, Lieut.-Col. J., I.M.S.
 Nellasawmi Pillay, J. N., Esq.
 Philips, Mrs. M.

Pritchard, S. M., Esq.
 Ramaswami Sivan, N. R., Esq.
 Rungacharriar, S., Esq.
 St. Leger, W. D., Esq.
 Sheriff Khan Bahadur, Maho-
 med.
 Sivaswami Iyer, P. S., Esq.
 Stradiot, E., Esq.
 Sturmer, Col. A. J., I.M.S.
 Subrahmanya Iyer, A., Esq.
 Thompson, the Hon'ble Mr. J.,
 C.I.E., I.C.S.
 VanGeyzel, Lieut.-Col. J. L.,
 I.M.S.

Particulars of Expenses.

| | RS. | A. | P. |
|--|--------|----|----|
| Superintendent's Salaries | 2,600 | 0 | 0 |
| Office and Garden Establishment .. | 1,969 | 15 | 7 |
| Garden, Permanent and Temporary Coolies .. | 1,078 | 13 | 0 |
| Garden Requisites | 930 | 3 | 6 |
| Seeds, Plants and Flowers | 2,959 | 13 | 7 |
| Charges Recoverable Account | 1,333 | 14 | 4 |
| Flower Show Account | 900 | 14 | 9 |
| Petty Charges | 119 | 8 | 5 |
| Postage and Stamps.. .. | 213 | 12 | 11 |
| Printing and Stationery | 487 | 1 | 9 |
| Advertisement Charges | 130 | 13 | 0 |
| Books and Periodicals | 41 | 12 | 6 |
| Furniture and Plant | 25 | 0 | 0 |
| Red Hills Water-supply | 527 | 7 | 1 |
| House, Water and Lighting Tax | 46 | 0 | 0 |
| Repairs to Office Building | 1,800 | 0 | 0 |
| Suspense Account | 39 | 13 | 4 |
| Sundries.. .. | 99 | 0 | 9 |
| Audit Fees | 50 | 0 | 0 |
| RUPEES .. | 15,354 | 0 | 6 |

J. L. WALKER,
Honorary Secretary.

H. E. HOUGHTON,
Honorary Treasurer.

Financial Statement, 1902.

| RECEIPTS. | | RS. | A. P. | DISBURSEMENTS. | | RS. | A. P. |
|--|--|---------------|------------|---|--|---------------|------------|
| By Balance with Messrs. Binny & Co. on 31st December, 1901 | | 1,894 | 14 5 | To Particulars of expenses as per list appended .. | | 15,354 | 0 6 |
| " Balance in hand, General Cash, on 31st December, 1901 Rs. 35 4 0 | | | | " Balance with Bankers on 31st December, 1902 .. | | 1,322 | 7 6 |
| " Do. do. Petty Cash ,, 250 14 11 | | | | " Do. in hand, Petty Cash, on 31st December, 1902 .. | | 200 | 0 0 |
| " Sales of Seeds, Plants and Flowers .. | | 286 | 2 11 | " Security of Cashier deposited with Messrs. Arbuthnot & Co. .. £ | | 750 | 0 0 |
| " Flower Show .. | | 7,023 | 7 0 | " Security of Seeds' Clerk deposited in Post Office Savings Bank .. | | 200 | 0 0 |
| " Subscriptions from Members .. | | 1,099 | 12 5 | " Government Grant for December 1902 realized in January 1903 .. | | 250 | 0 0 |
| " Government Grant .. | | 1,910 | 0 0 | | | | |
| " Do. Extra .. | | 3,000 | 0 0 | | | | |
| " Out-door work of laying Gardens, etc. .. | | 1,000 | 0 0 | | | | |
| " Amount transferred from Separate Account .. | | 501 | 15 10 | | | | |
| " Suspense Account .. | | 361 | 9 8 | | | | |
| " Interest from Bankers .. | | 10 | 0 0 | | | | |
| " Security of Cashier .. | | 38 | 9 9 | | | | |
| " Do. of Seeds' Clerk .. | | 750 | 0 0 | | | | |
| " " | | 200 | 0 0 | | | | |
| RUPEES .. | | 18,076 | 8 0 | RUPEES .. | | 18,076 | 8 0 |

J. L. WALKER,
Honorary Secretary.

MADRAS, 12th January, 1903.

H. E. HOUGHTON,
Honorary Treasurer.

THOS. CRONAN,
Auditor.

Proceedings of the Agri-Horticultural Society Madras, for January, February and March 1903.

A Meeting of the Committee was held at the Gardens on Friday, the 6th February, 1903, at 7 A.M.

The following gentlemen were present:—

| | |
|---|--------------------------------------|
| The Hon'ble Mr. Justice R. S. BENSON, I.C.S. | The Ven'ble Archdeacon A. WILLIAMS. |
| The Hon'ble Mr. Justice H. T. BODDAM, <i>Chairman</i> . | J. L. WALKER, Esq., <i>Hon. Sec.</i> |
| H. E. HOUGHTON, Esq., <i>Hon. Treasurer</i> . | G. NARAYANASWAMY CHETTIAR, Esq. |
| | C. SOWDEN, Esq. |

An estimate for the thorough repairs of the boundary wall was presented and passed.

Resolved:—That the Aroid House in the west corner of the Gardens at the back of the Office be removed.

It was decided to ask the following ladies and gentlemen to act as Judges at the forthcoming Flower Show:—

Class I.—The Rev. Archdeacon A. A. Williams.
The Hon'ble Mr. M. Hammick, I.C.S.

Class II.—R. Greenall, Esq.
W. A. Turner, Esq.

Class III.—Mrs. Maitland.
The Hon'ble Mr. Justice R. S. Benson, I.C.S.

Class IV. 1-7.—C. Sowden, Esq.
H. C. King, Esq.

8-13.—A. L. Hannay, Esq., I.C.S.
The Hon'ble Mr. H. A. Sim, I.C.S.

Class V. 1-10.—R. T. Menzies, Esq.
V. G. Lynn, Esq.

11-20.—R. B. Michell, Esq.
N. Subrahmanyam, Esq.

Class VI. 1-10.—The Hon'ble Chief Justice Sir Arnold White.
H. E. Houghton, Esq.

11-20.—Sutherland Orr, Esq.
G. Narayanaswamy Chettiar, Esq.

Class VII.—W. H. Oakes, Esq.
Col. A. J. Sturmer, I.M.S.

Class VIII.—The Hon'ble Mr. J. N. Atkinson, I.C.S.
F. G. R. Branson, Esq.

Class IX.—The Hon'ble Mr. H. Bradley, I.C.S.
J. H. Stone, Esq.

Class X.—Dr. Edgar Thurston.
J. Twigg, Esq., I.C.S.

It was resolved that Col. the Hon'ble Sir George Moore be elected an extraordinary member of the Society.

Resolved :—That the Committee desire to record their sense of the loss the Society has sustained by the retirement of Col. the Hon'ble Sir George Moore.

Mr. H. E. Houghton's offer to give his collection of Canna to the Gardens was gratefully accepted.

The terms of the Superintendent's agreement were discussed, and sanctioned, and the Honorary Secretary was asked to draw up an agreement for the Superintendent's signature.

The Secretary then intimated that the following contributions had been received during the month of January 1903 :—

Experiment Station Record, Vol. XIII, Nos. 10 and 11, U. S. Department of Agriculture, Washington.

Planting Opinion, Vol. VIII, Nos. 1, 2, 3, 4 and 5 for January 1903.

Bulletin Economique No. 2. Colonie De Madagascar and Dependencies.

Bulletin De Jardin Botanique. De L'Etat, Vol. I, fasc. 1, 2 and 3.

Gardener's Chronicle, Vol. XXXIII, No. 836 and 837 for January 1903. (Purchased.)

Agricultural News, Vol. I, No. 17 and 18 for December 1902.

Choice Cactæ by Frederic Adolph Haage, Jun., Erfurt, Germany

Guide for Amateur Gardeners by Chr. Lorenz, F.R.H.S., Erfurt, Germany.

Seed Guide, Messrs. Barr & Sons, London.

Catalogue of Seeds and Bulbs, Messrs. James Veitch & Sons, Ltd., Chelsea.

Catalogue general, 1903, by Ch. Molin, Esq., Lyon, France.

Amateurs' Guide in Horticulture for 1903, by Messrs. Sutton & Sons, Reading, England.

The Indian Forester, Vol. XIX, No. 1.

Bulletin of the Botanical Department, Jamaica, Vol. IX, Part 9.

Bulletin of Miscellaneous Information, Royal Botanic Gardens, Kew. Appendix I, 1903.

Agricultural Bulletin of the Straits and Federated Malay States, Vol. I, No. 14, edited by H. N. Ridley, Esq., F.L.S.

The Tropical Agriculturist, Vol. XXII, No. 7, edited by Messrs. A. M. and J. Ferguson, Colombo.

Curtis's Botanical Magazine, Vol. LIX, No. 697.

The following seeds and plants were presented to the Society during the month :—

J. L. Walker, Esq., Nungumbaukum, Madras—

1 *Gynerium argenteum* (Pampas grass).

1 *Heliotrope* (Dark).

1 *Cobæa scandens*.

Superintendent, Robinson Park—

1,000 lbs. of *Hurrialee* grass roots.

District Forest Officer, Madura—

1 lb. *Strychnos potatorum*.

Curator, Botanic Gardens, Grenada, W. Indies—

One small bag of *Stevensonia grandifolia*.

The following plants and seeds were sent out to Botanic and other Gardens during the month :—

To Superintendent, State Gardens, Baroda.

Superintendent, State Gardens, Gwalior.

Superintendent, Mysore Botanic Gardens, Bangalore.

Superintendent, Government Botanic Gardens, Kushroobagh.

Director, Botanic Gardens, Pondicherry.

Director, Botanic Gardens and Museum, Trivandrum.

Director, Royal Botanic Gardens, Glasnevin, Dublin, Ireland.

Curator, Botanic Gardens, Trinity College, Dublin.

Curator, Botanic Gardens, Ootacamund.

Superintendent, Victoria Gardens, Bombay.

Regius Keeper, Royal Botanic Gardens, Edinburgh.

Director of Imperial Botanic Gardens, St. Petersburg.

To each of the above one packet of *Arundinaria Hookeriana* and one packet of *Strychnos potatorum*.

To J. L. Walker, Esq., Nungumbaukum—

One plant of *Tabernæmontana Usambariensis*.

To H. N. Ridley, Esq., Director of Botanic Gardens, Singapore—

12 *Bignonia Megapotamica*.

4 *Millingtonia hortensis*.

4 *Phalaris laurifolia*.

2 *Guazuma tomentosa*.

2 *Congea tomentosa* var. *azurea*.

Superintendent's Notes.

The improvements of the grounds in the south-east corner of the Gardens have now been completed. The work was delayed owing to the necessity of removing two broad walks. New soil had to be filled in before any grass roots could be put down.

The following is a list of the trees, palms, bamboos and shrubs planted, together with a short note about each :

Archontheophoenix Alexandria, raised from seeds.

Chamerops excelsa, raised from seeds presented by Mr. H. E. Houghton, Madras.

Rhopaloblasta hexandra, raised from seeds received from Peradeniya, Ceylon, in 1901.

Thrinax altissima, raised from seeds received from the Director of Museums and Gardens, Paris, in 1898.

Raffia ruffia, raised from seeds received from Madagascar in 1902.

Hyophorbe Veschaftii, raised from seeds received from Grenada, W. Indies.

Caryota ochlandra, raised from seeds received from the Director of the Public Gardens and Museum, Trivandrum.

Bentinckia Nicobarica, raised from seeds received from the Andaman Islands.

Cocos Australis, long established in these Gardens and Guindy Park.

Wallichia disticha, do. do. do.

Lantana rubra. No records of its introduction.

Carludovica palmata received from Peradeniya, Ceylon.

Areca rubra.

Martenezia caryotœfolia, raised from seeds received from Peradeniya in 1901.

Arenga saccharifera, long established in these Gardens.

Gardenia florida, propagated from garden stock.

Serissa foetida, received from Victoria Gardens, Bombay, in 1901.

Acacia Maidenii, raised from seeds received from Sydney, Australia in 1901.

Phalaris laurifolia, raised from seeds received from Guindy Park in 1901.

Myristica fragrans, raised from seeds received from Travancore in 1901.

Francisia uniflora, propagated from plants received from Poona.

Musanda frondosa, propagated from plants received from Bangalore in 1900.

Aralia papyrifera, presented by R. L. Proudlock, Botanic Gardens, Ootacamund, in 1899.

Pandanus utilis, presented by Mr. H. E. Houghton in 1901.

Durio Zebethinus received from Peradeniya in 1903.

Musa coccinea, propagated from garden stock.

Kopsia fruticosa, propagated from garden stock.

Leae, sp. received from Victoria Gardens, Bombay in 1901.

Gynerium argenteum (Pampas), presented by Mr. J. L. Walker in 1902.

Thysolena rosea, raised from seeds received from Natal in 1900.

Rainfall.—The weather was exceptionally favourable for horticultural purposes. The rainfall was considerably in excess of other years. There were in all four rainy days with a total fall of 3·64 inches.

New Member.—A. R. Bonarji, Esq., I.C.S., was proposed and elected as an ordinary member in Class A.

At a Committee Meeting held on March 9th, the following gentlemen were present:—

The Hon'ble Mr. Justice H. T. BODDAM, *Chairman*.

G. NARAYANAWSAMY CHETTIAR, Esq.

A. L. HANNAY, Esq., I.C.S.

CHAS. SOWDEN, Esq.

H. E. HOUGHTON, Esq., *Honorary Treasurer*.

The Ven'ble Archdeacon A. A. WILLIAMS.

N. SUBRAHMANYAM, Esq.

J. L. WALKER, Esq., *Honorary Secretary*.

The following resolutions were passed:

(1) That the Flower Show accounts be presented at the next Meeting.

(2) That the estimate for the temporary repairs of the Fernery, which was presented, be passed.

(3) That the Friend-in-Need Society's men be paid 4 annas per day, after a month's probation without pay with the Society.

Read letter from Mr. J. L. Walker resigning his office of Honorary Secretary from the 10th of March.

Resolved, that a vote of thanks be tendered to Mr. Walker for his valuable services during his term of office.

Resolved, that Mr. L. E. Kirwan be asked to accept the office of Honorary Secretary.

Resolved, that travelling expenses be allowed the Superintendent for his work at the Quibble Island Cemetery, and the Museum.

The Secretary then intimated that the following periodicals had been received during the month :—

Second Memorandum on the Linseed and Rapeseed crops for the season of 1902-1903—Department of Land Records and Agriculture, Bombay.

Second Memorandum on the Winter Oilseeds crop of the season 1902-03, Government of India.

Second Forecast of the Linseed crop of the Central Provinces, season 1903—Department of Land Records and Agriculture, Central Provinces.

The Journal of the Royal Horticultural Society, Vol. XXVII, Part 2 and 3, edited by the Rev. W. Wilks, M.A., Secretary.

Second Forecast of the Rapeseed crop of the Punjab for the year 1902-03—Department of Land Records and Agriculture, Punjab.

Agricultural News, Vol. II, No. 19 & 20—Imperial Department of Agriculture for the West Indies.

Cotton and Onion Industries, No. 21, issued by the Commissioner of the Imperial Department of Agriculture, W. Indies.

A monograph on wood-carving in Bengal by Chevalier O. Ghilardi, Officiating Principal, Government School of Art, Calcutta.

Agricultural Ledger, 1903, No. 1. Camellia Thea, issued by Sir George Watt, Kt., etc., Calcutta.

Indian Forester, Vol. LIV, No. 3, edited by J. W. Oliver, Esq.

Final report on the Sugar-cane crop in the Punjab for the year 1902-03—Department of Land Records and Agriculture, Punjab.

Jamaica Annual Report of the Board of Agriculture, and Department of Public Gardens and Plantations, 1901-02.

Jamaica:—Board of Agriculture observation on varieties of Sugar-cane during the year 1902.

Catalogue, Miscellaneous, Messrs. Stenger and Rotter, Erfurt, Germany.

Planting Opinion, Vol. VIII, No. 6, 7, 8 and 9.

Gardener's Chronicle, Vol. XXXIII, No. 839, 840, 841 and 842. (Purchased.)

Proceedings of the Agri-Horticultural Society of India for October, November and December 1902.

Tropical Agriculturist, Vol. XXII, No. 9, March 1903.

Bulletin Economique, No. 3, Colonie De Madagascar and Dependencies.

The Journal of the Royal Horticultural Society, Vol. XXVII, Part 2 and 3, edited by the Rev. W. Wilks, M.A., Secretary.

The following seeds and plants were presented to the Society during the month :—

Curator, Royal Botanic Gardens, Calcutta—

2 plants *Aristolochia saccata*.

4 „ „ *Saintpaulia ionantha*.

Secretary, Agri-Horticultural Society of India, Calcutta—

1 packet of *Sterculia tricosyphon*.

Rainfall.—The weather still remains cool and several showers fell during the month, amounting to 1.45 inches. The rainfall for the same period last year being *nil*.

The Governor's Visit to the Gardens.—His Excellency Lord Ampthill accompanied by Emily Lady Ampthill, paid a short visit to the Gardens on the evening of the 12th February.

The Superintendent pointed out the plants and shrubs of interest, and His Excellency, on leaving, expressed himself as being highly pleased with all he had seen.

New Member.—S. Parthasarathy Iyengar, Esq., was proposed and elected an ordinary member in Class B.

At a Committee Meeting held on the 31st of March at 7 A.M., the following gentlemen were present :—

The Hon'ble Mr. H. BRADLEY, I.C.S., *Chairman*.

The Ven'ble Archdeacon A. A. WILLIAMS.

H. E. HOUGHTON, Esq., *Honorary Treasurer*.

CHAS. SOWDEN, Esq.

The Hon'ble Chief Justice R. S. BENSON, I.C.S.

G. NARAYANASWAMY CHETTIAR, Esq.

L. E. KIRWAN, Esq., *Honorary Secretary*.

Proposed by Mr. G. Narayanaswamy Chetty, seconded by Mr. H. E. Houghton and carried unanimously that the Hon'ble Mr. H. Bradley take the Chair.

Resolved, that Rule IV on page 8 of the Prize schedule be expunged, and that the following be substituted :—Judges may withhold any prize at their discretion.

The accounts of the last Show were presented and passed.

The Committee regretted that they were unable to accede to Mr. Parthasarathy Iyengar's request for permission to use the Society's microscope.

An estimate for dividing off a portion of No. I Plant House was presented and passed.

Mr. H. K. Beauchamp's letter regarding the prize awarded to his exhibit of annuals at the late Flower Show was read. The Committee regretted that they were unable to interfere with the decision of the Judges.

Read letter from Mr. W. H. Oakes resigning his office on the Committee owing to press of work.

The Secretary then intimated that the following contributions had been received during March :—

Planting Opinion, Vol. VIII, Nos. 10, 11, 12 and 13.

Le Quinquina Culture. Mons. E. Prudhomme, Esq.

Directeur de l'Agriculture, Madagascar.

Gleanings in Bee Culture, Vol. XXXI, No. 2. The A. P. Root Company, Medina, Ohio.

Agricultural Department, Madras, Note on Simple Machines for extracting Plantain Fibre, Vol. II, Bulletin No. 47, by R. L. Proudlock, Esq.

The Root Rot of Taro, by S. F. Sedgwick, Esq.

Agricultural Experimental News, Vol. II, No. 21 and 22, from the Imperial Department of Agriculture, Barbados, W. Indies.

Bulletin of the Botanical Department, Jamaica, Vol. IX, Part 11, edited by William Fawcett, Esq., F.L.S., etc.

Report of work of the Agricultural Experimental Stations of the University of California for the years 1898--1901.

Gardener's Chronicle, Vol. XXXIII, No. 843, 844, 845, 846. (Purchased.)

Curtis's Botanical Magazine, Vol. LIX, No. 698. (Purchased.)

Catalogues. Barr's Seed Guide, 1903.

„ Carter's Vade Mecum of Tested Seeds for the Garden, 1903.

„ Barr's Spring Bulbs, 1903.

The following plants and seeds were presented to the Society during the month :—

L. E. Kirwan, Esq.—

1 Thunbergia Mysorensis.

15 Orchids (unnamed).

1 packet of seed of Carica papaya (fine variety).

1 packet of seed of climber (unnamed).

H. E. Houghton, Esq., a complete collection of Canna—consisting of 300 plants.

A. C. Barber, Esq., Government Botanist, Chepauk Park—

1 packet Coreopsis Guinensis.

The Curator, Botanic Gardens, Lagos Gold Coast—

1 packet Coreopsis Guinensis.

J. Cameron, Esq., Lal Bagh, Bangalore—

1 doz. Adiantum cuneatum.

1 „ „ „ var. gracillimum.

$\frac{1}{2}$ „ „ Pacotti.

$\frac{1}{4}$ „ „ Moorei.

$\frac{1}{4}$ „ „ Lawsonianum.

1 Begonia (unnamed).

2 Draceana seedlings (unnamed).

3 plants Carnation.

The following plants and seeds were sent to Botanic and other Gardens during the month :—

J. Cameron, Esq., Lal Bagh, Bangalore—

- 6 *Artocarpus incisa*.
- 1 *Phalaris laurifolia*.
- 1 *Clerodendron macrosiphon*.
- 1 *Strophanthus aurantiacus*.
- 1 *Brownea coccinea*.
- 1 *Gardenia florida*.
- 1 *Eranthemum Cinnobaricum*.
- 1 *Aglœnema picta*.
- 1 „ *costata*.
- 1 *Peperomia magnifica*.
- 1 *Congea tomentosa* var. *azurea*.
- 1 *Phœnicophorum Seychellarum*.
- 1 *Hyophorbe Verschafeltii*.
- 1 *Caryota ochlandra*.
- 1 *Corypha alata*.
- 1 „ *umbraculifera*.
- 1 *Cocos plumosa*.
- 1 „ *Australis*.
- 1 *Pritchardia Pacifica*.
- 1 *Archonthonphœnix Alexandra*.
- 1 *Laportia Schomburgkiana*.

Mons. E. M. Prudhomme, Director of Agriculture, Madagascar—

1,000 seeds of *Kigelia pinnata*.

The Flower Show.—The 64th Annual Floral Exhibition was held on the 28th February. The Show was as usual held in the Nursery Gardens, the arrangements being much improved by the new road made on the extreme south boundary of the Nursery, for the express purpose of allowing exhibitors to bring in their exhibits without their being crowded on the main road as formerly. A large piece of ground behind the bamboos was cleared, and numerous small walks made, and such exhibits as Annuals, Cannas and Climbers were arranged here in a semi-circle, the right hand side being occupied by Messrs. Spencer's cigar booth, by Messrs. Harrison's refreshment tent and by Messrs. Parry's booth for the sale of tea. Tents were erected in the Broad Avenue in which were arranged the exhibits in Class IV. Taken as a whole the exhibits were well up to the average of previous Shows, the Annuals being

exceptionally good. Competition in some classes was not so keen as it might have been, which fact does not foretell the decay of horticultural interest as some may suppose, but is, doubtless, owing to the thieving propensities of the Madras *mali*, *i.e.*, there would probably be many more competitors if they could be sure that their plants would be safe from interference. This, of course, is difficult to provide for, but it is hoped to introduce more strict rules in future years. The Ferns and Foliage trophies were very fine and the Judges had great difficulty in awarding the first prize in both instances. Mr. H. E. Houghton was again successful in carrying off the prize for Palms and Canna; and his collection of *Dracænas* was the only exhibit of this plant in the Show, and well merited the prize gained. Mr. Houghton attributes the splendid colour of these plants to the application of Ichthemic Guano.

The exhibits of Vegetables grown in Madras were poor; and in Class IX, open to Government and Public Institutions, the Coimbatore Jail was the only competitor. The well-grown collections exhibited by this Institution fully merited the prize awarded.

The exhibits of Fruits were not up to the standard of other years. The Apples, Oranges, Limes, and Lemons were the best exhibits in this class.

In the Extra Prize list, a number of the exhibits were inferior to those of last year. The Sugar-cane and Flour of Pulses and Cereals were not considered worthy of prizes. The prize for Green and Dry Fodders was won by the exhibits from His Excellency the Governor's farm at Guindy.

His Excellency the Governor very kindly permitted his Band to be in attendance. From 7-30 A.M. to 11-30 A.M. it played a fine selection of Music.

Appended is a list of the prize winners together with the Judges' remarks.

CLASS I.—*Flowers in Pots, exclusive of Annuals.*

Judges.—The Ven'ble Archdeacon A. A. Williams and J. B. Bilderbeck, Esq.

1. Roses. Prize, a Bronze Medal—No exhibit.

Second prize—a certificate.

2. General collection of Perennials. Prize, a Bronze Medal or Rs. 5, and a certificate—Mr. P. Manickavelu Mudelliar—One exhibit.

3. Verbenas. Prize, Rs. 5 and a certificate—His Excellency the Governor of Madras—One exhibit.

4. Carnations, Picotees, Pinks and Dianthus, single and double varieties. Prize, Rs. 5 and a certificate—Chas. Sowden, Esq.

2nd prize, certificate—C. Nicholls, Esq.—Three exhibits.

5. Collection of Climbers (Perennial). Prize, a Bronze Medal or Rs. 5, and a certificate—Mr. P. Manickavelu Mudelliar—One exhibit.

6. Canna. Prize, a Bronze Medal or Rs. 5, and a certificate—H. E. Houghton, Esq.—One exhibit.

7. Collection of Begonias. Prize, a Bronze Medal or Rs. 5, and a certificate—Chas Sowden, Esq.

2nd prize, certificate.—C. Nicholls, Esq.—Three exhibits.

8. Chrysanthemums. Prize, a Bronze Medal or Rs. 5, and a certificate.—No prize awarded—One exhibit.

9. Dahlias. Prize, a Bronze Medal or Rs. 5, and a certificate—A. Grant, Esq.—Two exhibits.

10. Hibiscus. Prize, a Bronze Medal or Rs. 5, and a certificate.—No prize awarded—One exhibit.

Extra prize for any new flowers in this class not raised or exhibited before.—No exhibits.

Judges' Remarks.—Roses, no exhibits. Perennials, a large varied and well-grown collection. Verbenas, only one exhibit for competition, a large and fine collection. A good collection—not for competition—containing several new and rarer specimens was exhibited by Mr. H. E. Houghton. Carnations, three good exhibits. No. 10, though not so large a collection as No. 3, contained the better grown plants and a greater number of varieties. No. 3 is strongly recommended for a second prize. Climbers, only one exhibit, a large and varied collection. Cannas, only one exhibit, a large collection, but not well grown. Begonias, two very good large general collections and one small collection of new and rare flowering Begonias. No. 9 is slightly better than No. 12, the plants being in better condition. No. 2 is recommended for second prize. The smaller collection is highly recommended. Chrysanthemums, only two exhibits, one indifferent, the other poor; neither recommended for a prize. Dahlia, two exhibits—one well grown and the other very poor. Prize awarded to No. 6. Hibiscus, only one exhibit, not recommended for a prize.

Taken as a whole, the Exhibition was perhaps not up to the average. Competition does not appear to be as keen as might be desired.

(Signed) A. A. WILLIAMS.

(„) J. B. BILDERBECK.

CLASS II.—*Annuals grown in Pots.*

Judges.—R. Greenall, Esq., and W. A. Turner, Esq.

1. Collection of Annuals in pots. Prize, Rs. 10 and a certificate.—Messrs. Venkiah Bros.

2nd—Rs. 5 and a certificate.—H. K. Beauchamp, Esq., 2 exhibitors.

2. Double Balsams, Rs. 5 and a certificate.—Mr. P. Manickavelu Mudelliar, 3 exhibits.

3. Portulaccas, Rs. 5 and a certificate.—His Excellency the Governor of Madras, 2 exhibits.

4. Asters, Rs. 5 and a certificate.—No exhibits.

5. Phloxes, Rs. 5 and a certificate.—W. H. Oakes, Esq., 2 exhibits.

6. Climbers, Rs. 5 and a certificate.—C. Sowden, Esq., 2 exhibits.

7. Petunias, Rs. 5 and a certificate.—C. Sowden, Esq., 1 exhibit.

8. Double Zinnias, Rs. 5 and a certificate.—Lieut.-Col. R. F. R. Formby, 3 exhibits.

A special prize for the best plants grown with Ichthemic Guano. 1st, Silver Medal. 2nd, Bronze Medal. Not awarded.

Extra prize for any new flowers in this class not raised or exhibited before, Rs. 3.—H. E. Houghton, Esq., 1 exhibit.

Sweet Peas. Special Prize Rs. 3.—Mr. P. Manickavelu Mudelliar.

Judges' Remarks.—Annuals in pots, 1st prize, very fair collection. 2nd prize, indifferent. Exhibits generally not equal to 1902. Balsams, 1st prize, collection small but good. Other exhibits past their best and show signs of damage by recent rain. Portulaccas, 1st prize, very fine collection, and well grown, chiefly single blooms. Asters, no exhibits. Phloxes, 1st prize, fair collection. Exhibits generally not up to other years. Climbers, 1st prize, good and well grown collection. Petunias, 1st prize, only one exhibit and not equal to other years, blooms chiefly single. Zinnias, 1st prize, very good collection. Other exhibits up to average and plants well grown. Rare Flowering Annuals, No. 7, very good collection and well worth the title "rare." No. 11. Double daisies also very good and well grown. No. 21, Sweet Peas, very well grown and recommended for special prize.

No exhibits for special prize for plants grown with Ichthemic Guano.

(Signed) R. GREENALL.

(„) W. A. TURNER.

CLASS III.—*Cut Flowers.*

Judges.—Mrs. C. A. VanGeyzel and the Hon'ble Mr. Justice R. S. Benson.

1. Best Bouquet, Rs. 5—Mrs. J. B. Bilderbeck, 6 exhibits.

2. Best 6 Button-holes, Rs. 3—No prize awarded, 2 exhibits.

3. Hollyhocks, Rs. 3—M. D. Edwards, Esq., 2 exhibits.

4. Dahlias, Rs. 3—S. R. Turnbull, Esq., 2 exhibits.

5. Sunflowers, Rs. 3—N. Subrahmanyam, Esq., 2 exhibits.

6. Chrysanthemums, not less than 18 varieties, Rs. 3—No prize awarded, 2 exhibits.

7. Basket of Cut Flowers, Rs. 5—His Excellency the Governor of Madras, 2 exhibits.

Basket of Cut Flowers, Special Prize Rs. 3—Mr. H. E. Houghton,

8. Table Decoration, Rs. 5—No exhibit.

Judges' Remarks.—Bouquet, Mrs. Bilderbeck's was the best arranged. No. 16 by the same exhibitor was also good. Buttonholes, only 2 exhibits, both poor. We do not recommend any prize. Hollyhock, No. 7, (Mr. Edwards) was the smaller collection, but the flowers were better than those in No. 6 (Hon'ble Mr. Norton). Dahlias, good. Sunflowers, Mr. N. Subrahmanyam's were a very fine collection and the varieties were many and the specimens good. Chrysanthemums, neither collection had 18 varieties as required to qualify for a prize. The exhibits, too, were poor, the season being almost over for these flowers. Basket of Cut Flowers, that of His Excellency the Governor of Madras was the best arranged and, on the whole, had the best flowers. Mrs. Houghton's was also good, but the effect was spoiled by artificial butterflies. We recommend it for a special prize of Rs. 3 in place of Chrysanthemums not awarded. Table decoration, no exhibits.

(Signed) Mrs. C. A. VAN GEYZEL.

(„) The Hon'ble Mr. Justice R. S. BENSON.

CLASS IV.—*Ferns and Foliage Plants.*

Judges.—H. C. King, Esq., Chas. Sowden, Esq., Nos. 1 to 7. The Hon'ble Mr. H. A. Sim and Lieut.-Col. J. Maitland, Nos. 8 to 13.

1. Trophy of ferns and allied plants. First prize, a Silver Medal.—C. J. Hay-Ellis, Esq.

Second prize, a Bronze Medal or Rs. 5 and a certificate.—Mr. P. Manickavelu Mudelliar, 2 exhibits.

2. Collection of well-grown ferns, not more than one pot of each species to be exhibited. Prize, a Bronze Medal or Rs. 5 and a certificate, 2 exhibits. 1st Prize. The Hon'ble Mr. Eardley J. Norton.

3. Trophy of foliage plants. First prize, a Silver Medal.—Mr. P. Manickavelu Mudelliar, 2 exhibits.

Second prize, a Bronze Medal or Rs. 5 and a certificate.—C. J. Hay-Ellis, Esq., 2 exhibits.

4. Caladiums. Prize, a Bronze Medal or Rs. 5 and a certificate.—Mr. C. Ranga Row Naidu, 2 exhibits.

5. Alocasias. Prize, a Bronze Medal or Rs. 5 and a certificate.—C. J. Hay-Ellis, Esq., 1 exhibit.

6. Palms and Cycads. Prize, a Silver Medal.—H. E. Houghton, Esq., 1 exhibit.

7. Crotons. First prize, a Silver Medal.—Douglas Grant, Esq., 2 exhibits.

Second prize, a Bronze Medal or Rs. 5 and a certificate.—Captain Donovan, 2 exhibits.

8. Dracænas. Prize, a Bronze Medal or Rs. 5 and a certificate.—H. E. Houghton, Esq., 1 exhibit.

9. Aralias and Panax. Prize, a Bronze Medal or Rs. 5 and a certificate.—1 exhibit. No prize awarded.

10. Lycopodium and Selaginella. Prize, a Bronze Medal or Rs. 5 and a certificate—Chas. Sowden, Esq., 1 exhibit.

11. Anthuriums. Prize, a Bronze Medal or Rs. 5 and a certificate.—The Hon'ble E. J. Norton, 2 exhibits.

12. Coleus. Prize, a Bronze Medal or Rs. 5 and a certificate.—V. G. Lynn, Esq., 2 exhibits.

13. Silver Medal for the best collection of New Plants.—H. E. Houghton, Esq., 1 exhibit.

Bronze Medal for 2nd best collection of New Plants.—No second exhibit.

Judges' Remarks.—Though only 2 competitors entered in Nos. 1 and 3 respectively the trophies in both were excellent, and the Judges found considerable difficulty in coming to a decision. The trophies contained many beautiful and well-grown plants, but the arrangement of No. 16 and No. 20 were considered more effective. In No. 2 there was one very fine collection of well-grown ferns. In No. IV and VII respectively there were only 2 competitors and the Judges had no difficulty in awarding the first prize in No. IV to No. 6 and in No. VII to No. 2. Nos. V and VI each contained only one collection, but that in No. VI was an especially fine one. The Judges consider that the collections in IV and VII were packed too closely together for effective display, and recommend that for the future not more than two plants of each variety be admitted. Dracænas, only one exhibit, but plants well grown and many good varieties, worthy of a prize.

(Signed) H. C. KING.

(„) CHAS. SOWDEN.

Aralias and Panax, only one exhibit, too poor for a prize. Lycopodium and Selaginella, only one exhibit, but plants well grown and worthy of a prize.

Anthuriums, one excellent exhibit, No. 4 takes first prize. Coleus two collections. Both fairly good exhibits, No. 23 takes 1st prize. Collection of new plants, first prize taken by Mr. Houghton with a number of plants new to Madras.

(Signed) H. A. SIM.

(„) J. MAITLAND.

CLASS V.—*Vegetables (grown in Madras). Not open to Government and Public Institutions.*

Judges.—V. G. Lynn, Esq., R. T. Menzies, Esq., and N. Subrahmanyam, Esq.

1. Celery, Rs. 3—St. Patrick's Orphanage, 3 exhibits.
2. Beetroot, Rs. 3—St. Patrick's Orphanage, 2 exhibits.
3. Turnips, Rs. 3—St. Patrick's Orphanage, 3 exhibits.

4. Carrots, Rs. 3—F. B. Lavery, Esq., 4 exhibits.
5. Onions, Rs. 3—St. Patrick's Orphanage, 4 exhibits.
6. Cucumbers, Rs. 3—C. Nicholls, Esq., 4 exhibits.
7. Vegetable Marrows, Rs. 3—K. Egambara Naicker, 4 exhibits.
8. Cabbages, Rs. 3—No exhibits.
9. Tomatoes, Rs. 3—Abdul Kader, 3 exhibits.
10. Asparagus, Rs. 3—No exhibits.
11. Peas, Rs. 3—C. Nicholls, Esq., 3 exhibits.
12. Brussels Sprouts, Rs. 3—No exhibits.
13. French Beans, Rs. 3—F. B. Lavery Esq., 3 exhibits.
14. Kidney Beans, Rs. 3—F. B. Lavery, Esq., 5 exhibits.
15. Lettuces, Rs. 3—St. Patrick's Orphanage, 4 exhibits.
16. Knol-Khol, Rs. 3—Rev. David, 5 exhibits.
17. Jerusalem Artichokes, Rs. 3—F. B. Lavery, Esq., 4 exhibits.
18. Radishes, Rs. 3—N. Subrahmanyam, Esq., 4 exhibits.
19. Chillies and Capsicums grown in pots, Rs. 3—W. R. Carruthers, Esq., 3 exhibits.
20. Sweet Herbs grown in pots, Rs. 3—Douglas Grant, Esq., 2 exhibits.

Extra prize for any new vegetable in this class not exhibited before, Rs. 3—A specially fine Marrow, Ganamma.

Judges' Remarks.—1—10. Exhibits on the whole fair, St. Patrick's Orphanage having some very good exhibits. 11—20. A fair collection considering the lateness of the season.

(Signed) V. G. LYNN,

(„) R. T. MENZIES.

(„) N. SUBRAHMANYAM.

CLASS VI.—*Vegetables (grown anywhere). Not open to Government and Public Institutions.*

Judges.—H. E. Houghton, Esq., G. Narayanaswamy Chettiar, Esq., and N. Subrahmanyam, Esq.

1. Celery, Rs. 3—N. Parthasaradi Naidu, 2 exhibits.
2. Knol Khol, Rs. 3—Mathurammal.
3. Beetroot, Rs. 3—N. Parthasaradi Naidu.
4. Carrots, Rs. 3—N. Parthasaradi Naidu.
5. Turnips, Rs. 3—Govindarajulu Naidu.
6. Onions, Rs. 3—Govindarajulu Naidu.
7. Cabbages, Rs. 3—Govindarajulu Naidu.
8. Vegetable Marrows, Rs. 3—V. Balabathra Pillai.
9. Cucumbers, Rs. 3—Mathurammal.
10. French Beans, Rs. 3—Mathurammal.
11. Kidney Beans, Rs. 3—Venkatachellum Pillai.

12. Tomatoes, Rs. 3—Venkatachellum Pillai.
13. Chillies, Rs. 3—St. Patrick's Orphanage, 2 exhibits.
14. Brinjals, Rs. 3—Muni Ellappa, 7 exhibits.
15. Bandikai, Rs. 3—V. Cundasawmi Mudelly, 5 exhibits.
16. Potatoes, (a) large Rs. 3—N. Parthasaradi Naidu, 7 exhibits.
(b) small Rs. 3—Bangaru Naidu, 3 exhibits.
17. Peas, Rs. 3—C. Krishnasawmi Naidu, 5 exhibits.
18. Collection of Salad Plants, Rs. 3—Bangarammal, 2 exhibits.
19. Lettuces, Rs. 3—C. Krishnasawmi Naidu, 2 exhibits.
20. Cauliflowers, Rs. 3—Krishnasawmi Naidu, 2 exhibits.
21. Collection of Edible Roots, Rs. 3—Manicka Naicker.

Extra prize for any new vegetable in this class not exhibited before—No exhibit.

Judges' Remarks.—1—10. Show of Vegetables not up to last year, although Cabbages, Beetroots and Vegetable Marrows were of a good class. The Show is not up to previous years and the competition is not great. The two exhibits of Cauliflowers are above the average.

(Signed) H. E. HOUGHTON.

(„) G. NARAYANASWAMY CHETTY.

(„) N. SUBRAHMANYAM.

CLASS VII.—*Fruits.*

Judges.—The Hon'ble Mr. J. N. Atkinson and G. Narayanaswamy Chettiar, Esq.

1. Raspberries, Rs. 3—Muni Ellappa.
2. Strawberries, Rs. 5—Muni Kotappa.
3. Peaches, Rs. 5—N. Rangasawmi Raju.
4. Apples, Rs. 5—Cooti Chetty.
5. Pears, Rs. 5—No exhibit.
6. Sweet Oranges, Rs. 3—Rangasawmi Mudelly.
7. Pumplemoses, Rs. 2—Abbu Chetty.
8. Figs, Rs. 5—Abbu Chetty.
9. Grapes, Rs. 5—Abbu Chetty.
10. Sapodillas, Rs. 3—Nanjappa.
11. Melons, Rs. 3—Rangasawmi Mudelly.
12. Collection of different varieties of Plantains, Rs. 3—T. Santhi Pillai.
13. Lemons, Rs. 5—Rangasawmi Mudelly.
14. Limes, Rs. 3—Cooti Chetty.
15. Guavas, Rs. 3—Rangasawmi Mudelly.
16. Citrons, Rs. 3—Muni Ellappa.
17. Green Cocoanuts (different varieties), Rs. 5—T. Santhi Pillai.

Extra prize for any new fruit in this class not exhibited before.—
No prize awarded.

Judges' Remarks.—Oranges and Apples a good show. Limes and Lemons were large in size and good in quality.

(Signed) J. N. ATKINSON.

(„) G. NARAYANASWAMY CHETTIAR.

CLASS VIII.—*Flowers and Vegetables (grown in Madras). Open only to Soldiers, Non-commissioned and Warrant Officers and the Police.*

Judge.—The Hon'ble J. N. Atkinson.

1. Best collection of Flowers in pots, Rs. 10—Second, Rs. 5—No exhibit.

2. Best collection of Vegetables, Rs. 10—Second best, Rs. 5—No exhibit.

Extra prize for any new flower in this class not raised or exhibited before—No exhibit.

CLASS IX.—*Vegetables (grown anywhere). Open to Government and Public Institutions.*

Judges.—J. H. Stone, Esq., and the Hon'ble Mr. H. Bradley.

1. Best collection of English Vegetables. Prize, a Bronze Medal or Rs. 5 and a certificate.—E. H. Gadsden, Esq., 1 exhibit.

Second, a certificate.

2. Best collection of Indian Vegetables. Prize, a Bronze Medal or Rs. 5 and a certificate.—E. H. Gadsden, Esq., 2 exhibits.

Second, a certificate.—St. Patrick's Orphanage, 2 exhibits.

Judges' Remarks.—The Coimbatore Jail exhibit, as usual, is excellent. A notable feature is a bundle of Asparagus.

(Signed) J. H. STONE.

(„) H. BRADLEY.

CLASS X.—*Extra Prize List.*

Judge.—C. A. Barber, Esq.

The following prizes were open to the produce of the Madras Presidency, Hyderabad, Mysore, Coorg, Travancore and Cochin:—

1. Collection of cleaned fibres, not less than 5 lbs. weight of each, with plants either growing or as botanical specimens. The fibres must have been recently cleaned. Prize, Silver Medal—No exhibits.

2. Best Sample of Aloe Fibre not less than 5 lbs. Prize, Bronze Medal—No exhibit.

3. Collection of Forage—

(a) Green. Prize, Rs. 10—His Excellency the Governor of Madras, 1 exhibit.

(b) Dry. Prize, Rs. 10—His Excellency the Governor of Madras, 1 exhibit.

4. Collection of Aromatic plants growing in pots. Prize, Bronze Medal, 1 exhibit. No prize awarded.

5. Sugar-cane 50 lbs. samples, juice to be tested for saccharine value. Prize, Silver Medal—2 exhibits. No prize awarded.

6. Collection of the different varieties of food-grains other than Paddy. Prize, Rs. 10—Manicka Naicker, 2 exhibits.

7. Vegetable Dyes used in dyeing locally, and cloths dyed therewith. Prize, Silver Medal or Rs. 10, 2 exhibits. No prize awarded.

8. Collection of Gums and Resins correctly named. Prize, Rs. 5—Manicka Naicker, 2 exhibits.

9. Collection of Flour of Cereals and Pulses. Prize, Rs. 5, 2 exhibits. No prize awarded.

10. Madras-made Garden Implements. Prize, Rs. 5—No exhibit.

11. Garden pots, pans, etc., of plain and fancy varieties of local manufacture. Prize, Rs. 5 and a certificate—Sundara Udayar, 2 exhibits.

Silver or Bronze Medals, awarded for any exhibits of special economic value, e.g., rubbers, tobacco leaf grown locally, fit for wrappers; tanning materials, etc., etc. First prize, Silver Medal, Robinson & Co., Trichinopoly. 3 exhibits of tobacco wrappers.

(Signed) C. A. BARBER.

Judges' Remarks.—The special thanks of the Society are due to His Excellency the Governor for the services of his Band, and for his tents, tables, carpets, etc.; to the Commissioner of Police for the services of an Inspector, sub-Inspectors and Constables; to the President of the Municipality for permitting the watering of the Mount Road, to the Commissioner for Government Examinations, Madras, and to the Principal, Agricultural College, Saidapet, for the use of their tables, and to N. Subrahmanyam, Esq. for the loan of his very fine collection of Eucharis Lilies, which were utilised to great advantage in decorating the corner by the Secretary's tent.

Visit of the Members of the Teachers' Guild.—The members of the Teachers' Guild visited these Gardens on the morning of the 21st March. They were accompanied by Mr. Yates and the Rev. Mr. Kellet and were shown round by

the Honorary Secretary and the Superintendent. Their visit lasted from 7-30 A.M. to 9-30 A.M. At the conclusion of the visit the Rev. Mr. Kellet, on behalf of the members of the Guild, thanked the Honorary Secretary and the Superintendent for the very profitable and interesting morning they had spent.

Weather.—The month under review has passed without a shower; the temperature has been rather below the average of that of other years; on the whole the weather has been most favourable for growing purposes.

Appended is the Financial Statement for the first quarter.

Financial Statement, January to March, 1903.

| PARTICULARS OF RECEIPTS. | | | Amount. | | Total. | PARTICULARS OF DISBURSEMENTS. | | | Amount. | | Total. |
|---|-------|-------|---------|-------|--------|---|-------|----|---------|-------|-----------|
| | RS. | A. P. | RS. | A. P. | | | | | RS. | A. P. | RS. A. P. |
| By Balance with Messrs. Binny & Co. | | | | | | To Establishment Superintendent's Salary .. | 675 | 0 | 0 | | |
| on 31st December, 1902 .. | 1,322 | 7 | | 6 | | Do. Office and Garden.. | 533 | 8 | 0 | | |
| Do. of Petty Cash on hand on 31st December, 1902 .. | 200 | 0 | | 0 | 1,522 | 7 | 6 | | | 1,208 | 8 |
| | | | | | | | | | | | 0 |
| Security of Cashier deposited with Messrs. Arbuthnot & Co. .. | 750 | 0 | | 0 | | Garden Coolies, permanent .. | 160 | 4 | 6 | | |
| Do. of Seeds' Clerk deposited in the Post Office Savings Bank | 200 | 0 | | 0 | | Do. temporary .. | 153 | 15 | 3 | | |
| | | | | | 950 | | | | | 314 | 3 |
| Subscription from Members of A Class .. | 728 | 8 | | 0 | | Repairs to Office building .. | 1,046 | 2 | 9 | | |
| Do. from Members of B Class .. | 123 | 0 | | 0 | | Garden boundary walls .. | 235 | 9 | 6 | | |
| | | | | | | | | | | | 9 |
| Government Monthly Grant .. | 750 | 0 | | 0 | | Seeds, Plants and Flowers .. | 1,289 | 2 | 11 | | |
| Do. Extra .. | 500 | 0 | | 0 | | Ichthemic guano .. | 93 | 9 | 7 | | |
| Do. Flower Show do. .. | 500 | 0 | | 0 | 851 | | | | | 1,382 | 12 |
| | | | | | | Charges recoverable account .. | | | | 213 | 6 |
| Sales of Seeds, Plants and Flowers. | 1,830 | 7 | | 3 | | Garden requisites .. | | | | 273 | 3 |
| Do. Ichthemic guano .. | 14 | 8 | | 0 | | Flower Show account .. | | | | 795 | 13 |
| Do. Firewood .. | 52 | 6 | | 0 | | Out-door work account .. | | | | 141 | 8 |
| | | | | | | Audit fees .. | | | | 50 | 0 |
| Loan of plants .. | 70 | 12 | | 0 | 1,750 | | | | | | |
| Out-door work of laying Gardens, etc. | 224 | 4 | | 0 | | Discount account .. | 0 | 4 | 0 | | |
| | | | | | | Petty charges .. | 18 | 5 | 10 | | |
| | | | | | | Postage and Stamps .. | 51 | 6 | 0 | | |
| | | | | | | Advertisement charges.. | 44 | 13 | 3 | | |
| | | | | | 1,897 | | | | | 114 | 13 |
| | | | | | | Furniture and Plant .. | | | | 81 | 5 |
| | | | | | | Books and Periodicals.. | | | | 104 | 10 |
| | | | | | 295 | | | | | 131 | 7 |
| | | | | | | Printing and Stationery .. | | | | | 6 |

The Proceedings of the Agri-Horticultural Society of Madras for the months of April, May and June, 1903.

At a Committee Meeting held on Tuesday, April the 28th, at 7 a.m., the following gentlemen were present :—

| | |
|---|---|
| The Hon'ble Mr. Justice H. T. BODDAM, <i>in the Chair</i> . | R. T. MENZIES, Esq. |
| The Hon'ble Mr. H. BRADLEY, I.C.S. | V. G. LYNN, Esq. |
| The Hon'ble Mr. H. A. SIM, I.C.S. | H. E. HOUGHTON, Esq., <i>Honorary Treasurer</i> . |
| | L. E. KIRWAN, Esq., <i>Honorary Secretary</i> . |

Read letter from the Hon'ble Mr. H. A. Sim thanking the Committee for electing him a Member of the Committee and accepting office.

Accounts.—It was resolved to ask the Auditor to come to the office at an early date and explain the item of suspense account in last year's accounts.

Water-supply.—The Honorary Secretary was asked to draft a letter to the President of the Municipality with a view to getting a reduction in the rate paid for water.

Crotons.—A list of the present stock of Crotons was laid before the Meeting, and Rs. 40 was sanctioned for the purchase of new varieties from Calcutta.

New Price List.—It was proposed that a new price list be drawn up, printed and circulated, and separate lists for Crotons, Hibiscus, etc., printed.

A Museum.—It was suggested by the Honorary Secretary that the centre room of the office-building should be set aside as a Museum, in which should be placed samples of fibres, resins, etc., for the use of Members and others requiring information on such economic products.

The Honorary Secretary then intimated that the following publications had been received during the month under review :—

Berichte über Land-und-Forstwirtschaft in Deutsch-astarfrika. 1903.

Bulletin Economique Colonie DeMadagascar and Dependencies 2^o année No. 3.

Bulletin of Miscellaneous information, Appendix II, 1903, from the Director, Royal Botanic Gardens, Kew.

Bulletin of the Department of Agriculture, Vol. I, Nos. 2 and 3, edited by William Fawcett, Esq., B.Sc., F.L.S.

Report on the Department of Agriculture, Central Provinces, for the year ending 31st March, 1902.

Journal d'Agriculture 'Tropicale, No. 21, edited by J. Vilbouchevitch.

Journal of the Royal Horticultural Society, Vol. XXVII, Parts 2 and 3, edited by the Rev. W. Wilks, M.A., Secretary.

The Indian Forester, Vol. XXIX, No. 4, edited by J. W. Oliver, Esq.

The Tropical Agriculturist, Vol. XXII, No. 10, edited by Messrs. A. M. & J. Ferguson, Colombo.

Proceedings of the Agri-Horticultural Society of India for October, November and December, 1902.

The Queensland Agricultural Journal, Vol. XII, Part 4, edited by A. J. Boyd, Esq., F.R.G.S.

Agricultural News, Vol. 2, Nos. 23 and 24, also Index for Vol. I, April to December, 1902.

Sugar-cane Experiments, Parts 1 and 2. Experiments with varieties of, and an Appendix on the chemical selection of, sugar-cane. Presented by the Commissioner of Agriculture for the West Indies.

Gardener's Chronicle, Vol. XXXIII, Nos. 847, 848, 849 and 850. Purchased.

Curtis's Botanical Magazine, Vol. LIX, No. 700. Purchased.

Planting Opinion, Vol. VIII, Nos. 14, 15, 16 and 17.

Forecasts of the Rabi crops of Bengal for 1902-03.

Supplement to the Gazette of India, Nos. 12, 13.

The following seeds and plants were presented to the Gardens during the month of April:—

F. W. F. Fletcher, Esq., Rockwood, Nellakotta.

1 *Dendrobium aureum*.

1 *Ærides crispum*.

Major D. Prain, I.M.S., Superintendent, Royal Botanic Gardens, Calcutta.

1 packet of seeds of *Cassia Javanica*. *Lin.*

1 „ „ *Milletia ovalifolia*.

L. E. Kirwan, Esq., Nungumbaukum, Madras.

52 seeds of *Ipomæa bona-nox*.

1 packet of seeds of *Asparagus plumosus*.

Miss A. Beyers, Groenhof, Stellenbosch, Cape Colony, South Africa.

- 4 Bulbs of *Watsonia*. (Cape name *Zuar Kuol*).
- 1 „ *Amaryllis Belladonna*.
- 6 „ *Ixia* (Pink). (Cape name *Kalassie*).
- 8 „ *Ornythogalum*. (Cape name *Chinchærinchee*).
- 2 „ *Nerine*.
- 4 „ Free State Aureum Lily.
- 6 „ *Lachenalia* (Yellow and Red).
- 1 „ George Lily.
- 4 „ Coral Lily.
- 7 „ *Ixia* (Yellow).
- 8 „ Kalkoentjet (Cape name).
- 8 „ *Ixia* (White).
- 12 „ Unnamed.

Superintendent, Guindy Park, Madras.

- 1 packet of seeds of *Dillenia indica*.
- 1 „ *Caryota urens*.
- 1 „ *Anacardium occidentale*.
- 1 „ *Kentia Wendlandiana*.
- 1 „ *Phalaris laurifolia*.

The following plants were sent out during the month of April :—

G. S. Venkatarama Iyer, Esq., Saidapet.

- 20 roots of *Paspalum dilatatum*.
- 2 plants of *Erythroxylon coca*.

G. H. Krumbiegel, Esq., Superintendent, State Gardens, Baroda.

- 2 *Montanoa bipinnatifida*.
- 2 *Orchipeda foetida*.

Superintendent, Victoria Gardens, Bombay.

- 2 *Croton tiglium*.

Superintendent's Notes.

The Fern house by the east gate has been repaired, the old roof has been removed, and a new one of tarred bamboo tatty erected.

A wire fence 75 feet long has been put up on the right hand side of the road running down to the old farm buildings. 8 Plants

of white *Antigonon* have been planted against it for the purpose of meeting the large demand in Madras for white cut flowers.

With a view to improve the collections of *Hippeastrums*, *Hibiscus*, *Crotons* and such like plants in the Gardens, exchanges have been or are in course of being made with the leading Gardens in the north of India, and also with the Royal Botanic Gardens, Peradeniya.

In the latter part of 1902 the Rev. Liebenberg (a Boer prisoner of war) visited the Society's Gardens in company with the Rev. Thomlinson, an American Missionary, and evinced great interest in all he saw, being especially struck with the fine trees, which he said, were very scarce in his country. Ferns being his favourite plants, he was given a number of Fern spores and he promised in return to send us some interesting African plants after his return. On 22nd March last a letter was received from Miss A. Beyers to whom he had entrusted the task of redeeming his promise. The following are extracts from her letter :

The fern seeds which you so kindly gave to my brother-in-law, Rev. J. Liebenberg (Boer prisoner of war), were destined for me.

He has left me the task of redeeming his promise to you. From what I have heard it seems the Indian ferns are far superior to ours; and I am afraid that you will laugh at the poor specimens I am able to send of those growing in my neighbourhood. So I have decided to send you some wild or rather field bulbs of South Africa. The four loose bulbs in the box are two specimens of mauve *Watsonias*, the Cape or rather Dutch name being *Zuar Kuol*, which means sour bulb, am sorry I could not get a bulb of the white *Watsonia* for you.

The '*Nerine*' is a great favourite; it is a scarlet cluster, and shines in the sunlight as if sprinkled with gold dust. It grows on the mountains here at a certain altitude near the summits, but blooms in gardens too. It flowers during this month, so do the George and March Lilies.

I forgot to enclose a few seeds of the famous silver tree; we have hundreds of them growing on the farm. They only grow on the side of hills sloping towards the north.

I will enclose a few of the leaves, they are beautiful for painting on.

Weather.—April was a dry month in Madras, but the temperature was below the average. This fact, together with the unusual heavy dews, have kept vegetation in a fairly good condition.

Circulated.

The following contributions have been made to the Society during the month of May :—

West Indian Bulletin, Vol. IV, No. 1, issued by the Commissioner of the Imperial Agricultural Department.

The Tropical Agriculturist, Vol. XXII, No. 11, edited by Messrs. A. M. & J. Ferguson, Colombo.

Final forecasts of the Wheat Crop of Bengal, 1902-03, from the Department of Land Records and Agriculture, Bengal.

Agricultural News, Vol. II, Nos. 25 and 26, with Index for Vol. I, issued by the Commissioner of the Imperial Agricultural Department for the West Indies.

Planting Opinion, Vol. VIII, Nos. 18, 19, 20, 21, 22, edited by E. C. Duff, Esq.

Annual Administration Report of the Forest Department of the Madras Presidency for the year ending 30th June, 1902.

Agricultural Bulletin of the Straits and Federated Malay States, Vol. II, No. 1, Index for Vol. I, new series, edited by H. N. Ridley, Esq., M.A. F.L.S.

Supplement to the Gazette of India, No. 14.

Gardener's Chronicle, Vol. XXXIII, Nos. 851, 852, 853, 854. Purchased.

Curtis's Botanical Magazine, Vol. LIX, No. 701. Purchased.

Final Memorandum on the Linseed and Rape Seed crops for the season of 1902-03, issued by the Department of Land Records and Agriculture, Bombay.

Final forecasts of the Wheat Crop for 1902-03, issued by the Department of Land Records and Agriculture, United Provinces of Oudh and Agra.

Insecticides for use in Hawaii, Bulletin No. 3, edited by D. L. Van Dine, Esq.

Report on the operations of the Department of Land Records and Agriculture, United Provinces of Oudh and Agra.

Catalogues.—Law Somner & Co.'s Australia, seeds. D. Landreth & Sons, Philadelphia, seeds.

James Veitch & Sons, Chelsea, Hardy Fruit Trees, Novelties for 1903.

The Four Oakes Nursery & Garden Sundries Company, Garden Specialities and Requisites.

The following plants and seeds were presented to the Society during May, 1903 :—

V. G. Lynn, Esq., Rutland Gate, Nungumbaukum.

300 Cuttings of Crotons.

M. Ridley, Esq., Superintendent, Government Botanic Gardens, Lucknow.

29 *Caladium* Bulbs named.

Sir Charles Lawson, Constitutional Club, London.

1 packet of seeds of *Ocimum Viride*, the West African Mosquito plant. The seeds were sown at once and every care taken to insure their germinating.

The Superintendent, Government House Gardens, Madras.

1 lot of seeds of *Caryota urens*.

The following plants were distributed :—

To V. G. Lynn, Esq., Rutland Gate, Nungumbaukum.

31 plants, miscellaneous.

The Secretary of the Agri-Horticultural Society of India, Calcutta.

19 Named *Crotons*.

10 Named *Hibiscus*.

Superintendent's Notes.

Cryptostegia grandiflora.—The Latex from this indigenous rubber vine was collected, and a sample of the rubber, weighing $19\frac{1}{2}$ ozs., was sent to the Director, Imperial Institute, London, with a request for a detailed report as to its value as a commercial rubber. A sample of fibre from the same plant was also sent for analysis and report.

Helianthus annuus.—The Giant Sunflower. There has been a considerable amount of correspondence of late upon the merits of this plant, in consequence of which we have had several applications for seeds. To meet these demands an order for the seeds of the commercial variety, which is cultivated extensively in Russia and other places on the Continent has been placed with a French firm, from whom a few pounds were received last year to meet an order for the Superintendent of the Coimbatore Jail. The latter reported that up to the time of his transfer from Coimbatore, the results of his experiments had exceeded his expectations. The plants had grown to an average height of 7 feet with flowers varying from 14 inches to 18 inches in diameter, and the oil extracted therefrom he described as being very fine. The oil is used as a lubricant and for burning in lamps, and also for domestic purposes, for which it is little, if at all, inferior to olive oil.

Weather.—The weather has been exceptionally good for this time of the year. The temperature has been considerably

below the average and the rainfall the reverse, the total fall for the month being 4.61 inches as compared with 0.19 inches in 1902, and 0.07 inches in 1901. The coolness of the season has caused many of the trees and shrubs to flower and throw out new leaves much later.

A curious result has been noticed in the case of *Eucharis* lilies, which have had two and in some places three distinct crops of flowers.

At a Committee Meeting held at the Gardens on Tuesday, June 23rd, 1903, the following gentlemen were present:—

The Hon'ble Mr. H. BRADLEY, I.C.S., *Chairman*.

R. T. MENZIES, Esq.

V. G. LYNN, Esq.

H. E. HOUGHTON, Esq., *Honorary Treasurer*.

L. E. KIRWAN, Esq., *Honorary Secretary*.

Read letter from Mr. H. E. Houghton, resigning his office of Honorary Treasurer owing to pressure of work.

The following Resolutions were passed:—

- (1) That Mr. N. Subrahmanyam be invited to accept the same.
- (2) That a revised estimate for re-fitting the old seed almyrah, with pigeon holes back and front, be submitted at the next Meeting.
- (3) That the seed woman, Papamall, who has been in the Society's service since 1863 should be given a pension of Rs. 2 per month.
- (4) That non-members who wish to avail themselves of the Superintendent's services should be charged Rs. 10 per morning.
- (5) That before acceding to the proposition of the Honorary Secretary to allow members to purchase plants, etc., from the Gardens at a reduced rate, the rules and regulations of other Societies in India be consulted.
- (6) That no further action be taken with regard to the water-supply for the present.

The Secretary then intimated that the following periodicals and journals had been received during the month:—

Report on *Hevea Brasiliensis* in the Malay Peninsula by Stanley Arden, Esq., Superintendent, Experimental Plantations, Federated Malay States.

Annual Report of the Botanic Gardens, Graaff-Reinet for 1902.

Annual Report on Government Gardens and Parks in Mysore for the year 1901-02 with the Government Review thereon.

The Indian Forester, Vol. XXIX, No. 6, edited by A. G. Hobart Hampden, Esq.

Semi-Annual Report of Schimmel & Co., Leipzig, New York and London.—Subject essential oils, etc.

Records of the Botanical Survey of India, Vol. II, No. 4.

Flora of the Sundabans, by Major D. Prain, I.M.S.

The Agricultural Ledger, No. 2, 1903, Manures and Manuring. No. 3, 1903, Acrididæ—on a Plague of Grasshoppers, in the Central Provinces, edited by Sir George Watt.

West Indian Bulletin of Agriculture, Vol. III, No. 4, issued by the Commissioner of Agriculture, Barbados, West Indies.

Agricultural Bulletin of the Straits and Federated Malay States, Vol. II, No. 3, edited by H. N. Ridley, Esq., M.A., F.L.S.

Annales de l'Institut Central Ampilologique Royal Hongrois Tome II, 1902, Publiées sous la Direction Du Dr. G. V. De Istváuffi.

Acta Horti Petropolitani, Vol. XXI, Fasc. 1, Reen du Jardin Impérial Botanique de St. Petersburg.

Nineteenth Annual Report of the Department of Land Records and Agriculture, Bombay Presidency, for the year 1901-02.

Government of India Statistical Department, Final General Memorandums on the Winter Oil-seeds Crop of the season 1902-03, on the Rice Crop of the season 1902-03, on the Wheat Crop of the season 1902-03, also Supplements to the Gazette of India. Nos. 20, 21, 22, 23 and 24.

Department of Land Records and Agriculture, Punjab. Final Report on the Rape-seed crop of the Punjab for the year 1902-03.

Gardener's Chronicle, Vol. XXXIII, Nos. 855, 856, 857 and 858. Purchased.

Curtis's Botanical Magazine, Vol. LIX, No. 702. Purchased.

Planting Opinion, Vol. VIII, Nos. 23, 24, 25, 26, edited by E. C. Duff, Esq.

Agricultural News, Vol. II. Nos. 27 and 28, issued by the Imperial Department of Agriculture for the West Indies.

Bulletin of the Department of Agriculture, edited by William Fawcett, B.Sc., F.L.S., Jamaica, West Indies.

The appended list of plants were on view as being new or rare to these Gardens :—

- 1 *Lophospermum scandens*.
- 1 *Livistonia altissima*.
- 1 *Eranthemum* sp.
- 1 *Hyophorbe Verschaffeltii*.
- 1 *Acalypha Hamiltoniana*.
- 1 *Theobroma Cacao*.
- 1 *Sterculia trichosiphon*.
- 1 *Laportea Schomburghii* Var. *versicolor*.
- 1 *Coreopsis Guineensis*.
- 1 *Musa Arnoldiana*.

The following plants and seeds were presented to the Gardens during June :—

The Secretary, Agri-Horticultural Society of India, Calcutta.

- 1 *Euterpe* species.
- 1 *Cyrtostachys lacca*.
- 1 *Cocos flexuosus*.
- 1 *Ptychospermum Singaporensis*.
- 1 *Calamus fasciculatus*.
- 1 *Adiantum scutum*.
- 1 „ *cardiochlæna*.
- 1 „ *Mariesii*.
- 1 „ *Aneitense*.
- 1 „ *rubellum*.
- 1 „ *Lathomi*.

With the exception of 2 of the ferns the rest of the plants were received in good condition and they form a valuable addition to our present collection of palms and ferns.

The Superintendent, Guindy Park.

One pod of *Theobroma cacao*.

The fruit of this variety is of a deep red colour. The Society's plant bears fruits of a bright yellow or golden colour.

H. F. Macmillan, Esq., Curator, Royal Botanic Gardens, Peradeniya, Ceylon.

1,000 seeds of *Castilleja elastica* (sown at once).

Ll. E. Buckley, Esq., I.C.S., Tinnevely.

14 plants of *Hedychium coronarium*, collected in its wild state.

C. J. Hay-Ellis, Esq., Superintendent, People's Park.

Crotons (20 varieties), 85 cuttings.

11 Croton plants.

50 Suckers of *Calamus rotang*.

John Cameron, Esq., Superintendent, Mysore Government Gardens, Bangalore.

1 packet *Ipomæa*, White.

1 „ „ Blue.

The following plants were distributed to Botanic and other Gardens during the month under review :—

Mrs. J. C. Large, Yercaud.

2 *Myristica fragrans*.

1 *Theobroma cacao*.

H. F. Macmillan, Esq., Curator, Royal Botanic Gardens, Peradeniya, Ceylon.

500 seeds of *Castilleja elastica* (sown at once).

Superintendent's Notes.

Villebrunea integrifolia or the Bon-Riha—

In a letter from Mr. H. F. Macmillan, Curator, Royal Botanic Gardens, Peradeniya, Ceylon, dated 5th June, he says *Villebrunea integrifolia* thrives luxuriantly at our Hill Garden, elevation 5,800 feet. It did not succeed well at Peradeniya, but your conditions there (*Madras*) might suit it better. Its fibre has not yet been tested here. A full description of this fibre is to be seen in one of the Agricultural Ledgers published in 1898. It is a native of the Eastern Himalayas from Sikkim to Nepal, throughout the valley of Assam, and is also found in Cachar, Sylhet, Chittagong and the Andaman Islands.

Dr. Watt in concluding his report says:—

The *Bon-Riha* is a plant that can be grown on soils that the true *Rhea* plant could not live on. It would require next to no cultivation. There is no difficulty in separating the ribbons of bark, since they do not adhere so firmly to the central core of wood as in the true *Rhea*. The bark strips off like that of a willow, and a machine that would slit the bark, and then peel it off might easily enough be devised. None of the mechanical difficulties that beset the *Rhea* industry seem to me to exist in this case. Even if the fibre be considerably less valuable than the true *Rhea*, it could be produced as a by-crop in tea planting, could be easily and cheaply cleaned, and might thus be turned into the market at a price that would at once command a ready sale.

Brucea Sumatrana.—Of the four specimens of this plant presented to the Gardens by Mr. R. L. Proudlock, one has survived, and is at present a healthy-looking plant about 15 inches high. It has lately been receiving a considerable amount of attention, as a valuable cure for dysentery. An allied species, *B. antidysenterica* is a native of Abyssinia and is known in that country under the name of *Woodginoos*.

The root is a plain simple bitter, without aromatic or resinous taste, leaving in the throat and palate something of roughness, resembling *Ipecacuanha* and is said to be a specific in dysentery. The bark is sold under the name of *Angostura bark*.

Ocimum viride.—The West African mosquito plant. On May 26th a packet of seeds of this plant was received from Sir Charles Lawson who got the seeds from Mr. W. Watson, of the Royal Gardens, Kew. They were sown on the same day, and on the 2nd of June 10 seeds had germinated, and a few days later nine more. These were carefully attended to, and on the 18th June, were potted separately into thumb pots, and, were placed out of doors on an open stage. While here unfortunately they were attacked one night, presumably by a slug, and the result was a loss of several plants. There are now 14 healthy plants, with a second pair of leaves developing.

The Plant House.—The work of dividing off a portion of No. I Plant house has been completed. The portion divided off is now reserved for Orchids, and new or rare plants, raised in or presented to the Gardens. The new section is completely fenced in with 2½-inch wire netting with a view to plants being safe-guarded from the petty robberies that are continually taking place. Another object in view in making this new section was to provide a suitable house for the culture of Orchids, a class of plants that has been sadly neglected in Madras. The house has a north-east aspect, and is well protected from the hot winds blowing from the west.

Weather.—The greater part of the month has remained exceptionally cool for the time of the year. Towards the close of the month we experienced a slight land-wind for a few hours in the middle of the day, but in spite of this everything is looking fresh. On the night of the 13th we had a heavy thunderstorm, and a fall of 0.92 inches of rain. A strong wind was blowing, which did but slight damage in the Gardens, although there were reports of several large trees in various parts of the city having been blown down. In the Gardens, a specimen of *Caryota urens* was snapped off just above the surface of the ground, and also a large limb of *Millingtonia hortensis* was broken off in the Mount Road border.

Appended is the Quarterly Balance-sheet.

(Signed) L. E. KIRWAN.

Honorary Secretary.

Financial Statement, April to June, 1903.

| PARTICULARS OF RECEIPTS. | Amount. | | Total. | PARTICULARS OF DISBURSEMENTS. | | Amount. | | Total. |
|---|---------|-------|-----------|---|-----|---------|-------|------------|
| | RS. | A. P. | | | | RS. | A. P. | |
| By Balance with Messrs. Binny & Co. on 31st March, 1903 .. | 1,427 | 9 9 | | To Establishment Superintendent's Salary .. | 675 | 0 0 | | |
| " Do. of Petty Cash on hand on 31st March, 1903 .. | 200 | 0 0 | | " Do. Office and Garden.. | 520 | 10 2 | | |
| | | | 1,627 9 9 | | | | | 1,195 10 2 |
| " Security of Cashier deposited with Messrs. Arbuthnot & Co. .. | 750 | 0 0 | | " Garden Coolies, permanent .. | 129 | 14 0 | | |
| " Do. of Seeds' Clerk deposited in the Post Office Savings Bank | 200 | 0 0 | | " Do. temporary .. | 38 | 8 0 | | |
| | | | | | | | | 268 6 0 |
| " Subscription from Members of A Class .. | 350 | 8 0 | | " Seeds, Plants and Flowers .. | | | | 453 3 10 |
| " Do. from Members of B Class .. | 60 | 0 0 | | " Charges recoverable account .. | | | | 247 13 8 |
| | | | | " Flower Show account .. | | | | 218 0 0 |
| " Government Grant for March, 1903. | | | | " Garden requisites .. | | | | 107 4 11 |
| " Do. do. for April, 1903 .. | | | | " Out-door work account .. | | | | 40 3 6 |
| " Do. do. for May, 1903 .. | | | | " Red Hills Water-supply .. | | | | 156 6 7 |
| | | | | " Discount account .. | | 0 4 0 | | |
| " Sales of Seeds, Plants and Flowers. | 1,102 | 14 6 | | " Petty charges .. | | 18 4 3 | | |
| " Do. Ichthemie guano .. | 26 | 0 0 | | " Postage and Stamps .. | | 51 15 6 | | |
| | | | | " Advertisement charges.. | | 64 14 3 | | |
| | | | | " Garden expenses .. | | 2 4 0 | | |
| | | | | | | | | 137 10 0 |
| | | | | " Furniture and Plant .. | | | | 21 10 9 |
| | | | | " Books and Periodicals.. | | | | 17 12 0 |
| | | | | " Printing and Stationery .. | | | | 84 4 9 |
| | | | | | | | | |

| | | | | | | | | |
|---------------------------------------|----|----|----|------------|---|------------|------------|--|
| Out-door work of laying Gardens, etc. | .. | .. | .. | 266 12 0 | Security of Cashier deposited with Messrs. Arbuthnot & Co. .. | 750 0 0 | | |
| Interest from Bankers.. | .. | .. | .. | 16 13 10 | Do. of Secds' Clerk deposited in the Post Office Savings Bank | 200 0 0 | 950 0 0 | |
| | | | | | Balance of Petty Cash on hand on 30th June, 1903 .. | 200 0 0 | | |
| | | | | | Do. with Messrs. Binny & Co. on 30th June, 1903 .. | 1,052 3 11 | 1,252 3 11 | |
| Total Rupees .. | .. | .. | .. | 5,150 10 1 | Total Rupees .. | .. | 5,150 10 1 | |

L. E. KIRWAN,
Honorary Secretary.

MADRAS, 20th July, 1903.
Audited and found correct.

THOS. CRONAN,
Auditor.

N. SUBRAHMANYAM,
Honorary Treasurer.

The Proceedings of the Agri-Horticultural Society of Madras for the months of July, August and September, 1903.

At a Committee Meeting held on Tuesday, August the 4th, at 7 A.M., the following gentlemen were present :—

| | |
|--|--|
| The Hon'ble Mr. Justice H. T. BODDAM, <i>in the Chair.</i> | Lieut.-Col. R. F. R. FORMBY, I.A. |
| The Hon'ble Mr. H. BRADLEY, I.C.S. | R. T. MENZIES, Esq. |
| The Hon'ble Mr. Justice R. S. BENSON, I.C.S. | V. G. LYNN, Esq. |
| H. E. HOUGHTON, Esq. | G. NARANASWAMY CHETTY, Esq. |
| N. SUBRAHMANYAM, Esq., <i>Honorary Treasurer.</i> | L. E. KIRWAN, Esq., <i>Honorary Secretary.</i> |

The following Resolution was passed :—

That with reference to the seeds supplied to the Superintendent of Police, Cuddapah, and which were refused by him, a letter should be addressed to the District Inspector of Police, Cuddapah, and should no satisfactory reply be received from him, another should be addressed to the Inspector-General of Police, Madras ; and that if these methods failed the case should be put in the hands of a Cuddapah lawyer, with a view to filing a suit.

It was proposed by the Hon'ble Mr. H. Bradley and seconded by the Hon'ble Mr. Justice H. T. Boddam and carried unanimously, that members should be allowed to purchase plants, seeds, etc., from the gardens, up to the value of Rs. 100 at a reduction of 50 per cent. on catalogued rates.

With reference to the seed almyrah it was decided, before anything definite was settled, to make further inquiries.

From MADRAS, 23rd July, 1903.

The HONORARY SECRETARY,
Agri-Horticultural Society, Madras.

To
The CHIEF SECRETARY,
Government of Madras, Ootacamund.

SIR,—I have the honor to submit herewith our budget estimate for 1904-1905 and accounts for 1902-1903.

I have the honor to be,

Sir,

Your most obedient servant,

(Signed) L. E. KIRWAN.

Honorary Secretary.

DETAILED ACCOUNT NO. 26.—GOVERNMENT SCIENTIFIC
DEPARTMENT, BOTANIC AND OTHER PUBLIC GARDENS.

| RECEIPTS. | Budget estimate, 1904-1905. | Revised estimate, 1903-1904. | Budget estimate, 1903-1904. | Account. | | |
|---|-----------------------------------|------------------------------------|-----------------------------------|----------|----|----|
| | RS. | RS. | RS. | RS. | A. | P. |
| Agri-Horticultural Garden, Madras .. | 4,000 | 4,000 | 4,000 | 4,000 | 0 | 0 |
| Government monthly and extra grant .. | 3,500 | 3,500 | 3,500 | 3,500 | 0 | 0 |
| „ Flower-Show grant .. | 500 | 500 | 500 | 500 | 0 | 0 |
| Sale of seeds, flowers, plants and fruit trees .. | 4,000 | 4,000 | 4,000 | 5,674 | 14 | 3 |
| Commission on sale of Guano .. | 30 | 30 | 30 | 14 | 10 | 5 |
| Sundries including rail, shipping, packing charge, cart hire, etc. .. | 1,000 | 1,100 | 1,000 | 1,333 | 14 | 4 |
| Subscription from Members.. | 1,800 | 1,800 | 1,800 | 1,910 | 0 | 0 |
| Sale of admission tickets, etc., Flower-Show .. | 1,000 | 1,000 | 1,000 | 1,099 | 12 | 5 |
| Interest on floating account .. | 25 | 40 | 25 | 38 | 9 | 9 |
| Outdoor work of laying gardens, etc. .. | 500 | 500 | 500 | 501 | 15 | 10 |
| Total .. | 12,355 | 12,470 | 12,355 | 14,573 | 13 | 0 |
| EXPENDITURE. | | | | | | |
| Pay of Establishment .. | 4,800 | 4,800 | 4,800 | 4,569 | 15 | 7 |
| „ of Coolies .. | 1,000 | 1,000 | 1,000 | 1,078 | 13 | 0 |
| Seeds, flowers, plants and fruit trees purchased .. | 2,500 | 2,400 | 2,500 | 2,959 | 13 | 7 |
| Red Hills water supply .. | 550 | 600 | 550 | 527 | 7 | 1 |
| Books and periodicals .. | 50 | 50 | 50 | 41 | 12 | 6 |
| Sundries including rail, shipping, packing charges, cart hire, etc. .. | 1,000 | 1,000 | 1,000 | 1,333 | 14 | 4 |
| Printing, Stationery and Advertisement.. | 600 | 600 | 600 | 617 | 14 | 9 |
| Petty charges including carriage hire, etc. | 100 | 100 | 100 | 258 | 6 | 6 |
| Garden requisites, including pots, manure, sand, etc., and cost of repairing fern houses .. | 1,000 | 1,000 | 1,000 | 930 | 3 | 6 |
| Building and repairs .. | 300 | 300 | 300 | 1,800 | 0 | 0 |
| Furniture and plant .. | 50 | 50 | 50 | 25 | 0 | 0 |
| Quit rent and Municipal taxes .. | 50 | 50 | 50 | 46 | 0 | 0 |
| Postage and stamps .. | 250 | 250 | 250 | 213 | 12 | 11 |
| Audit fees .. | 100 | 100 | 100 | 50 | 0 | 0 |
| Flower-Show .. | 1,150 | 1,150 | 1,150 | 900 | 14 | 9 |
| Total .. | 13,500 | 13,450 | 13,500 | 15,354 | 0 | 6 |

(Sd.) L. E. KIRWAN,
Honorary Secretary.

The Honorary Secretary then intimated that the following periodicals had been received during the month of July:—

Report on the Nagpur Experimental Farm in the Central Provinces for the year 1902-03.

Agricultural Bulletin of the Straits and Federated Malay States for April 1903, Vol. II., No. 5, edited by H. N. Ridley, Esq., M.A., F.L.S.

Queensland Agricultural Journal, Vol. XII, part 6, edited by A. J. Boyd, Esq.

The Indian Forester, Vol. XXIX, No. 7, edited by E. P. Stebbing, Esq., F.L.S.

Tropical Agriculturist, Vol. XXIII, No. 1, edited by Messrs. A. M. and J. Ferguson.

Curtis's Botanical Magazine, Vol. LIX, No. 703, by Sir Joseph Dalton Hooker, M.D., G.C.S.I., etc.

Le Mois Scientifique, 5^e année, No. 6, published under the direction of Professor H. Girard.

Circulars and Agricultural Journal of the Royal Botanic Gardens, Peradeniya, Ceylon.

1. The Tea Tortrix (*Capua coffearia*), Vol. 2, No. 3.
2. A Report on the Experimental Station, Peradeniya, by Herbert Wright, Esq., Vol. 2, No. 4.
3. The Lobster Caterpillar (a tree pest in Ceylon), by E. Ernest Green, Esq., Vol. 2, No. 5.
4. Root Disease in Tea (*Rossellinia Radiciperda*), by J. B. Carruthers, Esq., Vol. 2, No. 6.

Annual Report of the Royal Botanic Gardens, Calcutta, for the year 1902-03.

The Gardener's Chronicle, Vol. XXXIV, Nos. 859, 860, 861 and 862. Purchased.

Planting Opinion, Vol. VIII, Nos. 27, 28, 29, and 30 issued by E. C. Duff & Co., Madras.

Agricultural News, Vol. II, Nos. 29, and 30, issued by the Imperial Department of Agriculture for the West Indies.

Agricultural Ledger, 1903, No. 2.

The following seeds and plants were presented to the Society during July:—

The Superintendent of the Victoria Gardens, Bombay.

1 packet of seeds of a Giant Sunflower from Berbera, Somaliland

The Superintendent, Guindy Park, Madras.

1 pod of *Theobroma Cacao*, containing 50 seeds.

W. Gollan, Esq., Superintendent of the Government Botanic Gardens, Saharanpur.

12 Named Caladiums.

13 „ Hibiscus.

13 „ Crotons.

27 „ Bulbs of *Hippeastrum hybridum*.

L. E. Kirwan, Esq., Nungambaukum, Madras.

1 tin of seeds of *Carica Papaya*.

Major D. Prain, Superintendent of the Royal Botanic Gardens, Calcutta.

1 bag containing 99 seeds of *Dæmarops Jenkinsianus*.

H. W. Raikes, Esq., Chickmaglur, Kadur District.

44 plants of *Eletaria cardamomum*.

Miss C. Burns, The Retreat, Kilpauk.

1 pot of double flowering *Tuberose*.

H. F. Macmillan, Esq., Curator, Royal Botanic Gardens, Peradeniya, Ceylon.

12 Bulbs of *Amaryllis* (white flowered).

12 „ *Zephyranthes candida*.

12 „ „ *carnata*.

12 „ „ *sulphureus*.

12 „ „ *tubispatha*.

Prof. Hasting Page, College of Science, Poona.

6 oz. of seeds of *Phoenix robusta*.

The following plants and seeds were distributed during July:—

To H. W. Raikes, Esq., Chickmaglur, Kadur District.

100 seeds of *Castilloa elastica*.

150 roots of *Paspalum dilatatum*.

To J. H. Stephens, Esq., Superintendent, Government Horticultural Gardens, Nagpur.

2 *Congea tomentosa*, var. *azurea*.

2 *Pritchardia Pacifica*.

To Major D. Prain, I.M.S., Superintendent, Royal Botanic Gardens, Calcutta.

27 Pineapple plants.

To the Superintendent, Victoria Gardens, Bombay.

1 *Congea tomentosa*, var. *azurea*.

2 oz. of seeds of *Strychnos potatorum*.

To Miss C. Burns, The Retreat, Kilpauk.

9 *Croton* cuttings.

9 *Verbena hybrida*, cuttings.

Cut flowers were supplied gratis to the General Hospital during the month, whenever available.

The following were proposed, and elected as ordinary members during July :—

In class A., Mrs. M. F. Gaitskell, B. Cayley, Esq., P. Bosworth-Smith, Esq., The Hon'ble Mr. C. J. Weir, I.C.S.

In class B., Natesa Iyer, Esq.

Superintendent's Notes.

Ocimum viride.—These plants continue to make favourable growth, and to all appearances take kindly to the Madras climate. The aroma of the leaves is not very perceptible as yet, and it will probably be another six or eight weeks before the plants will be large enough for experimenting with as a mosquito-fuge.

Visitors.—The Members of the Presidency Training School for Mistresses visited the Gardens on the morning of Saturday the 25th of July, and were taken round by the Superintendent who pointed out the plants of interest. In a letter, dated the 29th July, Miss Parsons wrote thanking the Honorary Secretary for the very interesting and instructive morning they had spent.

At a Committee Meeting held on Tuesday, the 8th of September, at 7 a.m., the following gentlemen were present :—

The Hon'ble Mr. Justice R. S. BENSON, I.C.S., *in the Chair*.

The „ „ H. T. BODDAM.

Lieut.-Col. R. F. R. FORMBY, I.A.

V. G. LYNN, Esq.

H. E. HOUGHTON, Esq.

G. NARANASAWMY CHETTY, Esq.

L. E. KIRWAN, Esq., *Honorary Secretary*.

The following Resolutions were passed :—

(1) That seeds and plants, not in the Society's Garden, should be exempt from the 50% reduction ;

(2) That Mr. C. A. Barber, Government Botanist, should be invited to attend the Committee Meetings ;

(3) That the Superintendent's suggestions for alteration in the prize schedule for 1904 be circulated to the members of the Committee for their perusal and remarks ;

(4) That the Superintendent be at liberty to quote special rates to planters and others for economic plants, according to what is available ; and

(5) That the Superintendent should have the right of refusing to distribute whatever plants it is not considered convenient to part with.

The Honorary Secretary then intimated that the following contributions had been made to the Gardens during the month of August :—

Bulletin of the Department of Agriculture, Vol. II, Parts 6 and 7, edited by William Fawcett, Esq., B.Sc., F.L.S., Jamaica, West Indies

Bulletin of the Botanical Department, Jamaica, New Series, Vol. V.

The Indian Forester, Vol. XXIX, No. 8, edited by E. B. Stebbing, Esq., F.L.S.

Report of the Director of the Botanical Survey of India for the year 1902-03.

Proceedings of the Agri-Horticultural Society of India for January to March, 1903.

West Indian Bulletin, Vol. III, No. 4, and Agricultural News, Vol. II, Nos. 31 and 32, issued by the Commissioner of Agriculture, Barbados, West Indies.

Agricultural Bulletin of the Straits and Federated Malay States, Vol. II, No. 6, edited by H. N. Ridley, Esq., M.A., etc.

Kew Bulletin of Miscellaneous information, Appendix III, 1903.

The Tropical Agriculturist, Vol. XXIII, No. 2, edited by Messrs. A. M. & J. Ferguson, Colombo.

Report on the Government Horticultural Gardens, Lucknow, for the year ending 31st March, 1903.

Planting Opinion, Vol. VIII, Nos. 30, 31, 32, 33 and 34, issued by E. C. Duff & Co., Madras.

Gardener's Chronicle, Vol. XXXIV, Nos. 863, 864, 865, and 866. (Purchased.)

Report on the Experimental Plantations in the Federated Malay States for the year 1902.

Annual Administration Report of the Government Botanic Gardens and Parks, Nilgiris, for the year 1902-03.

Annual Report of the Government Horticultural Gardens, Lahore, for the year 1902-03.

Acta Horti Petropolitani Tomus, Vol. XXI, Fasciculus II.

The Annual Report of the Nilgiri Agri-Horticultural Society for the year 1902-03.

Proceedings of the Royal Colonial Institute, Vol. XXXIV, 1902-03.

The Pests and Blights of the Tea-plant, edited by Sir George Watt, M.B., C.M., etc., and Harold H. Mann, Esq., M.Sc., etc.

Report on the Administration of the Cinchona Department, during the year 1902-03.

Curtis's Botanical Magazine, Vol. IX, No. 704. (Purchased.)

Agricultural Bulletin of the Straits and Federated Malay States, Vol. II, No. 7, edited by H. N. Ridley, Esq., M.A., etc.

Report on the Botanic Gardens, British Guiana, for the year 1902-03.

Catalogues—Messrs. James Veitch & Son's Bulbs for 1903.

Messrs. Vilmorin Andrieux, et. Cie., Miscellaneous for 1903-04.

The Queensland Agricultural Journal, Vol. XIII, Part I.

The following seeds and plants were presented to the Society during August:—

By R. L. Proudlock, Esq., Curator, Botanic Gardens, Ootacamund.

2 plants of *Thuja Orientalis*.

By Major D. Prain, I.M.S., Superintendent, Royal Botanic Gardens, Calcutta.

1 plant of *Ficus Krishna*.

By J. C. Willis, Esq., M.A., Director, Royal Botanic Gardens, Peradeniya, Ceylon.

1 packet of seeds of *Artocarpus Lakoocha*.

1 " *Loxococus rupicola*.

1 " *Rhoplalloblasta hexandra*.

1 " *Cassia nodosa*.

1 " *Achroma lagopus*.

1 " *Lysidice rhodostegia*.

1 " *Cinnamomum culilawan*.

By G.H. Krumbiegel, Esq., Superintendent, State Gardens, Baroda.

2 *Chlorophytum elatum*.

1 *Crinum Powellii*.

1 " " *alba*.

2 *Busselia floribunda*,

By Miss A. Beyers, "Groenhof", Stellenbosch, Cape Colony, South Africa.

14 seeds of *Leucodendron argenteum*.

The following seeds and plants were distributed during the month of August:—

To Prof. Hastings Page, Poona.

64 plants of sorts.

To H. S. Ferguson, Esq., Director, Government Museum and Public Gardens, Trivandrum.

34 plants of sorts.

To H. F. Macmillan, Esq., Curator, Royal Botanic Gardens, Peradeniya, Ceylon.

31 plants of sorts.

To G. H. Krumbiegel, Esq., Superintendent, State Gardens, Baroda.

31 plants of sorts.

1 packet of seeds of *Caryota urens*.

1 do. do. *Ptychosperma Macarthuri*.

Cut flowers have been supplied gratis to the General Hospital, 3 days in each week during the month.

The following were proposed and elected ordinary members of the Society during the month of August:—

In Class A., the Kumara Rajah of Devarakota, T. R. Vincent, Esq.

In Class B., R. S. Ramasingam Chetty, Esq.

Superintendent's Notes.

A Visit to an Agave Plantation.—The cultivation of the *Agave* in Southern India for the production of its fibre promises to become a staple industry. The advantages in its cultivation are being recognised by many planters. Labour is cheap and plentiful; acres of Government land are to be had for a mere trifle, and there is no doubt that the climate is just what is required for its successful cultivation. The only apparent drawback appears to be a want of a good cheap portable machine that will turn out anything over half a ton of clean fibre *per diem*.

The machine in use by the South Indian Fibre Co. is a most expensive one, and I am afraid its cost would be prohibitive in small concerns.

The district of Anantapur, on the northern slopes of the Mysore plateau, is considered by some to be the best land for *Agave*, but there are undoubtedly other suitable localities throughout the Presidency.

Mr. C. Chambers's estate which was visited by the Honorary Secretary in company with the Superintendent, is situated on the outskirts of Madras in the Saidapet Taluk, near Palavaram, formerly a large Military Station and health resort. The greater portion of the land is red laterite with strata of gravel, and here and there a trace of black cotton soil. Running through the estate are several small hills, these being a continuation of the Vandalur range, terminating at St. Thomas's Mount. Mr. Hutchence, who is managing the estate, very kindly conducted his visitors over the ground and pointed out everything worth noting. From him they learnt that the ground previous to planting does not require any preparation beyond clearing the brushwood; no attempt being made at levelling. The plants are put in 5 ft. apart in the rows and 7 ft. between the rows. Roads will subsequently be cut through the plantations after the site of the factory has been definitely settled, to facilitate the removal of the leaves to the machine.

At present Mr. Hutchence is only planting the American or Railway Aloe, *Agave Americana*. He hopes, however, to shortly plant out 30,000 Sisal hemp plants, which he obtained from the Society's gardens in 1902, and which are at present planted 9" apart in nursery beds, containing 2,000 plants each. Mr. Hutchence was very proud of his nursery of young Sisal, and, certainly, all the plants were looking in the best of health.

He estimates that the plants on the estate will be ripe for cutting in five years from the date of planting.

The returns, he calculates, will amount to 20 leaves from each plant annually. Thus an acre of plants planted out 5 ft. by 7 ft. = 1,210 plants or 24,200 leaves. Supposing each leaf to weigh $1\frac{1}{4}$ lbs., this will give 30,250 lbs. of raw material. Taking Mr. Hutchence's average of $2\frac{1}{2}$ per cent. of clean fibre from every 100 lbs. of raw leaves, we find that an acre will produce 756 lbs., say 7 cwts., of clean fibre, worth £9-2-0 at the present market value. Estimating the cost of production, cleaning and shipping at half the price of the fibre, which is certainly the outside limit, it will be seen that *Agave* cultivation should well repay anyone who undertakes it.

The following contributions were made to the Society during the month of September :—

Records of the Geological Survey of India, Contents and Index of Vols. XXI—XXX, 1887 to 1897, and General Report on the work carried on by the above for the year 1902-03, by T. H. Holland, Esq., A.R.C.S., F.G.S. (Director).

Annual Report of the Civil Veterinary Department, Bengal, and of the Bengal Veterinary College, for the year 1902-03.

Report on the Management of the District Gardens in the Central Provinces, for the year 1902-03.

Report on the Season and Crops of Assam, for the year 1902-03, by F. C. Henniker, Esq., I.C.S.

Report on the Government Botanical Gardens, Saharanpur and Mussoorie, for the year ending 31st March, 1903.

Bulletin of the Department of Agriculture, Vol. I, Part 8, App. II, edited by William Fawcett, Esq., B.Sc., F. L. S.

West Indian Bulletin, Vol. IV, No. 2, issued by the Commissioner of Agriculture for the West Indies.

Revue Horticole, No. 581, issued by the Botanical and Horticultural Society of Rhone.

The Agricultural Ledger—*Solanum tuberosum*, No. 4.; Pulses of India; No. 5; Sugar manufacture No. 6; issued by Sir George Watt, M.B., C.M., etc.

The Queensland Agricultural Journal, Vol. XIII, Part 2.

The Indian Forester Vol. XXIX, No. 9, edited by E. P. Stebbing, Esq., F.L.S.

The Tropical Agriculturist, Vol. XXIII, No. 3, edited by Messrs. A. M. & J. Ferguson, Colombo.

Curtis's Botanical Magazine, Vol. LIX, No. 705. (Purchased.)

Planting Opinion, Vol. VIII, Nos. 35, 36, 37, and 38.

The Gardener's Chronicle, Vol. XXXIV, Nos. 867, 868, 869, and 870. (Purchased.)

Catalogues—Barr's Gold Medal Daffodils.

E. H. Krelage & Sons, Dutch Bulbs.

The following seeds and plants, were presented to the Society during August :—

By G. H. Krumbiegel, Esq., Superintendent, State Gardens, Baroda.

22 Named varieties (new Canna).

2 plants of *Euryale ferox*.

By John Cameron, Esq., Superintendent, Lal Bagh, Bangalore.

3 New *Achimenes*.

1 Coorg ground orchid.

2 *Begonia recurvifolia*.

2 „ *rex*.

28 Violets.

3 *Ocimum viride*.

1 Tiger Lily.

1 *Pandanus Baptisti variegata*.

4 *Panax*.

1 *Cupressus funebris*.

1 „ *lusitomea*.

1 „ *tuberosa*.

4 *Dracæna*.

By E. D. M. Hooper, Esq., Conservator of Forests, Madras.

96 lbs. weight of tubers of *Gloriosa superba*.

1 oz. of seeds of *Ficus elastica*.

By E. B. Powell, Esq., Langham Hotel, Madras.

6 packet of seeds of Poppy.

By H. F. Macmillan, Esq., Curator, Royal Botanic Gardens, Peradeniya, Ceylon.

600 seeds of *Hevea Brasiliensis*.

By Major D. Prain, Superintendent, Royal Botanic Gardens, Calcutta.

1 packet of seeds of *Quisqualis Indica*.

By P. Lancaster, Esq., Secretary, Agri-Horticultural Society of India, Calcutta.

7 named Crotons.

By R. L. Proudlock, Esq., Curator, Government Botanic Gardens, Ootacamund.

101 *Chrysanthemums*.

36 *Gladiolus*.

59 *Dahlia*.

3 dozen Violets in 6 varieties.

By L. E. Kirwan, Esq.

105 *Croton* cuttings.

The following seeds and plants were distributed during the month of September :—

To J. Cameron, Esq., Superintendent, Lal Bagh, Bangalore.

1 *Chlorophytum elatum*.

3 *Ocimum viride*.

1 *Panax* (sport)

4 *Artocarpus incisa*.

1 packet of seeds of *Salvia splendens*.

To N. Ridley, Esq., Superintendent, Government Horticultural Gardens, Lucknow.

37 named Crotons.

5 unnamed „

15 seedling „

2 *Tabernaemontana Usambariensis*.

2 *Landolphia florida*.

Cut flowers were supplied to the General Hospital three times a week during the month.

The following were proposed and elected Ordinary Members of the Society during the month of September:—

In class A., A. F. Pinhey, Esq., I.C.S.; C. A. Barber, Esq.

In class B., R. F. Vaughan, Esq.; B. Ager, Esq.

Superintendent's Notes.

Ocimum syn Ocymum.—As these plants have been attracting so much attention of late among scientists at Home, more especially owing to Captain Larymore who claims that *Ocimum viride* contains remarkable properties as a mosquito-fuge, a few remarks on their general characters may not be out of place. The *Ocima* are an extensive genus of plants indigenous to the tropical and sub-tropical parts of Africa, Asia and America. Here in India the genus is represented by about 40 species.

The *Ocimum* according to some authorities derives its generic name from the word *izo*—to smell; whilst others quote the old Greek name used by Theophrastus for *Basil*, viz.—*Okimon*.

It will be seen, however, that in both instances the words are descriptive of the chief character of the plants, all of which emit a strong odour.

It is no doubt on account of their odorous properties that they are so much sought after by the people of the countries in which the plants are found in a wild state, who make use of them either medicinally or in their religious rites and ceremonies.

Their fragrant and aromatic principles are due to the presence of a volatile oil analogous to camphor, which is stored up in the numerous glands which exist in every part of the plant.

The following species are common to Madras, and many other species are equally valuable, though from the fact that

they are not found locally, it would not be of interest to describe them :—

Ocimum basilicum.—The sweet basil, is a native of both India and Africa. In India the seeds are considered soothing and refreshing, and are used medicinally in a decoction. In Java it is employed as a stimulant ; whilst in Persia the seeds are soaked in water, then beaten up with rice, and given as a cooling drink during the excessive heat of summer.

Ocimum gratissimum.—The grateful basil, is a doubtful indigenous species, although common throughout India. It is prescribed as a sudorific and diuretic after chills.

Ocimum album.—The leaves of this species have a pleasant taste and odour, the juice is administered to children for colds, and the dried leaves are used as a substitute for tea.

Ocimum sanctum.—The sacred basil of the Hindu. An infusion of the root of this species is prescribed for fevers ; the juice of the leaves is also given in catarrhal affections.

The Brahmins regard this plant as sacred to Vishnu, and use it in their funeral ceremonies. The Malays also strew it over the graves of their dead.

Ocimum viride.—The green basil. This is a native of West Africa, and to all appearances is a plant of more robust habit than the species found locally. In odour it does not appear to be in any way more pronounced than the *O. sanctum*. So far back as 1838 it was described as the fever plant of Sierra Leone. An infusion of the leaves of this plant is used by the native of the West Coast of Africa as a febrifuge.

Financial Statement, July to September, 1903.

| PARTICULARS OF RECEIPTS. | | | Amount. | | Total. | PARTICULARS OF DISBURSEMENTS. | | | Amount. | | Total. | |
|---|----|--|---------|-------|--------|-------------------------------|---|--|---------|-------|--------|-------|
| | | | RS. | A. P. | RS. | A. P. | | | RS. | A. P. | RS. | A. P. |
| By Balance with Messrs. Binny & Co. | | | | | | | To Establishment Superintendent's Salary | | 675 | 0 | | |
| on 30th June, 1903 | .. | | 1,052 | 3 11 | | | Do. Office and Garden.. | | 526 | 13 | 0 | |
| Do. of Petty Cash on hand on | .. | | 200 | 0 | 0 | | | | | | 1,201 | 13 |
| 30th June, 1903 | .. | | | | | 1,252 | 3 11 | | | | | 0 |
| | | | | | | | | | | | | |
| Security of Cashier deposited with Messrs. Arbuthnot & Co. | .. | | 750 | 0 | 0 | | Garden Coolies, Permanent | | 248 | 5 | 3 | |
| Do. of Seeds' Clerk deposited in the Post Office Savings Bank | .. | | 200 | 0 | 0 | | Do. Temporary | | 26 | 11 | 3 | |
| | | | | | | | | | | | 275 | 0 |
| | | | | | | | | | | | | 6 |
| Subscription from Members of A Class | .. | | | | 950 | 0 | Interest paid to Cashier at 5 per cent. on his security | | | | 37 | 8 |
| Do. from Members of B Class | .. | | 482 | 8 | 0 | | Commission paid to Superintendent at 2½ per cent. on receipts | | | | 140 | 4 11 |
| | | | 45 | 0 | 0 | | Seeds, Plants, Flowers, Fruit Trees, etc. | | | | 805 | 2 |
| | | | | | | | Ichthemic guano | | | | 31 | 0 |
| Government Grant for the month of June, 1903 | .. | | | | 527 | 8 | Charges recoverable account | | | | 391 | 12 |
| Do. do. for the month of July, 1903 | .. | | 250 | 0 | 0 | | Flower Show account | | | | 27 | 8 |
| Do. do. for the month of August, 1903 | .. | | 250 | 0 | 0 | | Garden requisites | | | | 212 | 8 |
| | | | 250 | 0 | 0 | | Out-door work account | | | | 22 | 6 |
| | | | | | | | Red Hills Water-supply | | | | 85 | 12 |
| | | | | | | | Municipal Tax | | | | 22 | 14 |
| | | | | | | | Discount account | | | | | 0 |
| | | | | | 750 | 0 | Petty charges | | 1 | 8 | 0 | |
| | | | | | | | Postage and Stamps | | 15 | 15 | 3 | |
| | | | | | | | Advertisement charges.. | | 59 | 14 | 6 | |
| | | | | | | | | | 130 | 10 | 1 | |

The Proceedings of the Agri-Horticultural Society of Madras for the 4th quarter ending December 31st, 1903.

COMMITTEE MEETING.

At a Committee Meeting held at the Society's Library on October 6th, at 7 A.M., the following gentlemen were present:—

The Hon'ble Mr. Justice H.

T. BODDAM, *in the Chair*.

H. BRADLEY, Esq., I.C.S.

V. G. LYNN, Esq.

H. E. HOUGHTON, Esq.

G. NARAYANASAWMY CHETTY,
Esq.

L. E. KIRWAN, Esq., *Honorary
Secretary*.

Resolutions.—The following Resolutions were passed:—

1. That Mr. Cavanagh visit Malabar at the Society's expense with a view to studying the flora of that District and making collections of plants.

2. That the date of the Flower Show should not be altered and that, it should take place as usual on the last Saturday in February.

3. That the Prize schedule be revised and that the suggestions circulated to the members of the Committee by the Honorary Secretary be adopted and printed.

Contributions.—The Honorary Secretary then intimated that the following contributions had been made to the Society during the month of October:—

Report on Land and Forest Administration in Dutch East Africa for the year 1902-03.

Buletino Del Laboratorio Ed Acto Botanico Universita Di Sienna, Italy.

Bulletin of the New York Public Library, Vol. VII, No. 9.

Report on the Department of Agriculture, Central Provinces, for the year 1902-03.

Report on the Government Botanical Gardens, Saharanpur and Mussoorie, for the year ending 31st March, 1903.

Report on the Season and Crops of Assam for the year 1902-03.

Annual Report of the Civil Veterinary Department, Bengal, and of the Bengal Veterinary College for the year 1902-03.

The Agricultural Ledgers, No. 4, *Solanum tuberosum*; No. 5, Pulses of India; No. 6, Sugar manufacture; issued by Sir George Watt, Reporter on Economic Products to the Government of India, Calcutta.

The *Indian Forester*, Vol. XXIX, No. 10, edited by E. P. Stebbing, Esq., F.L.S.

Agricultural Bulletin of the Straits and Federated Malay States, Vol. II, No. 9, edited by H. N. Ridley, Esq., M.A., F.L.S.

Land Records Administration Report in Rangoon for the year ending 30th June, 1903.

Records of the Botanical Survey of India, Vol. II, No. 5, a Census of the Indian *Polygonums*, by Capt. A. T. Gage, I.M.S.

Agricultural News, Vol. II, Nos. 31, 32, 33, 34, from the Imperial Department of Agriculture for the West Indies.

The *Gardeners Chronicle*, Vol. XXXIV, Nos. 871, 872, 873, and 874, purchased.

Curtis's Botanical Magazine, Vol. LIX, No. 706, by Sir Joseph Dalton Hooker, M.D., G.C.S.I., etc.

The *Tropical Agriculturist*, Vol. XXIII, No. 4, edited by Messrs. A. M. & J. Ferguson.

Report on Natal Botanic Gardens and Colonial Herbarium for the year ending 30th June, 1903.

Planting Opinion, Vol. VIII, Nos. 39, 40, 41, 42 and 43.

The *Queensland Agricultural Journal*, Vol. XIII, Part 4, edited by A. J. Boyd, Esq.

Report of work of the Agricultural Experimental Station of the University of California for the years 1898 to 1901, Part II.

United States Department of Agriculture, Experimental Station Record, Vol. XIV, Nos. 5, 6, 7, 8, 9, and 10, edited by A. C. True, Esq., Director.

University of California Publications:—

Bulletin 147, Culture Work at the Sub-Stations, by Charles H. Shinn, Esq.

Bulletin 148, Resistant Vines and their Culture, by E. H. Twight, Esq.

Bulletin 149, the Californian Sugar Industry, Part I, Historical and General, by George W. Shaw, Esq.

Bulletin 150, the Value of Oak Leaves for Forage, by W. W. Mackie, Esq.

The following plants and seeds were presented to the Society during the month of October:—

From A. F. Pinhey, Esq., I.C.S., Collector of Malabar.

1 packet of seeds of large yellow-flowered Hibiscus.

From J. Cameron, Esq., Superintendent of the Government Gardens and Museum, Bangalore.

3 Green Ripley Pine-apples.

3 Red Ripley do.

3 Smooth Cayenne do.

From the Director, Botanic Gardens, Adelaide, South Australia.

53 packets of seeds.

From Mrs. J. C. Large, the Cascades, Yercaud,

1 packet of seeds of *Asparagus plumosus*.

From P. S. Sivasawmi Iyer, Esq., Mylapore.

300 Croton cuttings containing 32 varieties.

From P. Lancaster, Esq., Secretary of the Agri-Horticultural Society of India, Calcutta.

1 small case of seeds of *Mesua ferrea*.

From Mon. E. M. Proudhomme, Director of Agriculture, Madagascar.

99 seeds of *Adansonia digitata*.

From H. N. Ridley, Esq., Director of the Botanic Gardens, Singapore.

20 packets of seeds.

Plants and seeds issued.—The following plants and seeds were sent out during the month of October :—

To Col. J. Maitland, I.M.S., Royapettah.

1 packet of seeds of large yellow-flowered Hibiscus.

To B. F. Cavanagh, Superintendent, Guindy Park.

50 Papaya seedlings.

6 Hybrid Coffee, Liberian \times Arabica.

1 *Alpinia* from Sikkim.

1 *Solanum Ranthoneti*.

1 *Musa Arnoldiana*.

1 *Spyroneima fragrans*.

1 *Ananasa Sativa* var. *variegata*.

1 *Durio Zebithinus*.

2 *Lophospermum scandens*.

1 *Budlea globosa*.

To R. L. Proudlock, Esq., Curator, Botanic Gardens, Ootacamund.

120 bulbs of *Zephyranthes sulphureus*.

28 packets of seeds of *Eucalyptus*.

To T. Medley Wood, Esq., Curator of Public Gardens and Museum, Durban.

2 bottles of seeds of *Nymphæa*.

New Members.—The following gentlemen were proposed and elected ordinary members of the Society:—

A. Class.—D. G. Hatchell, Esq., Teynampett.

A. Class.—J. G. Smith, Esq., The Luz, Mylapore.

B. Class.—T. Desika Chariar, Esq., The Fort, Trichinopoly

SUPERINTENDENT'S NOTES FOR OCTOBER.

Tomato Blight.—In the early part of the month, a specimen of diseased tomato was sent to the Gardens by Mrs. Twigg with a letter, asking if we could give her any information as to the cause of the disease and whether we could suggest any remedy. The specimen received was merely the top growth and was, as could be easily seen from its withered appearance, attacked by some uncommon disease. As it was thought the plant might be attacked by root gall, a complete specimen was asked for, from which it was found that the roots were perfectly healthy. There was, therefore, no room for doubt that the plants were being attacked by what is known in the United States as the *Field* or *Southern Blight*, and had in all probability been introduced through the seeds, which were ascertained to have been obtained from America. Mrs. Twigg was strongly advised to burn the whole stock of plants raised from these seeds, as also the soil they were grown in. This was considered the safest way of preventing the spread of this destructive blight which, as far as can be ascertained, has not been known to exist in Madras before.

The Gourami-Asphrominus Alfax—is reported to be one of the best flavoured freshwater fish in the East Indian Archipelago. Its original habitat is Java, Sumatra, Borneo and several other East Indian Islands. Being an almost omnivorous fish and tenacious of life, it seems to recommend itself particularly for acclimatisation in other tropical countries. It has been successfully introduced to Penang, Malacca, Mauritius, Cayenne and Madras. It is said to attain a considerable size in its native habitat, weighing as much as 100 lbs. It is however usually marketed before it attains the weight of 12 lbs. As a proof of its very tenacious life, it is said that the fish are taken to market alive, and if not sold are returned to the pond.

In appearance it somewhat resembles the carp, the dorsal and anal fins being provided with numerous spines, and the ventral fins being produced into long filaments.

The Gourami is very hardy and grows fast, and although a vegetable feeder, is omnivorous in its taste, waste food of any description being acceptable to it.

In 1876 Mr. H. Thomson introduced to Madras a few of these fish from Mauritius, some of which were placed in the tanks at Guindy Park, and His Excellency's gardens at Madras; and again in 1883, 20 young fish were put into the *Victoria Regia* tank of the Society's Gardens.

In 1899 they were found to be so destructive to the *Victoria Regia* that it was considered necessary to remove them. The tank was in consequence dragged, and the fish caught and distributed to several gentlemen in Madras interested in them. It was not known, until a few months ago, that the Gourami had so thoroughly established itself in the tanks of His Excellency's gardens in Madras. The tank in question had been wholly reserved for the cultivation of the *Nelumbium speciosum*, but it having been decided to remove these plants to make room for a *Victoria Regia*, the *Nelumbiums* were removed in July and in September. One *Victoria Regia* was planted, and this on the 2nd day had completely disappeared. On looking for the cause, it was discovered to be the work of the Gourami. On dragging the tank later to supply A. Butterworth, Esq., I.C.S., with a dozen fish, which had been promised him by His Excellency, some fine specimens were netted, averaging about 7 lbs. Every precaution was taken to ensure the safe transit of the fish from Madras to Nellore. The arrangements were carried out under the direct supervision of Mr. D. G. Hatchell, and it was due to this gentleman that the twelve fish reached Nellore without a single failure.

COMMITTEE MEETING.

At a Committee Meeting held at the Society's Library on Tuesday, November the 3rd, at 7 A.M., the following gentlemen were present:—

The Hon'ble Mr. Justice R. S. BENSON, *in the Chair*.

The Ven'ble Archdeacon A. A. WILLIAMS.

The Hon'ble Mr. H. A. SIM, I.C.S.

Col. R. F. R. FORMBY, I.A.

H. E. HOUGHTON, Esq.

N. SUBRAHMANYAM, Esq., *Honorary Treasurer*.

L. E. KIRWAN, Esq., *Honorary Secretary*.

Read letter from the Hon'ble Mr. H. A. Sim to the Honorary Secretary, in which he stated that after talking the matter of

revision of the Prize List over with Mr. C. A. Barber and the Hon'ble Mr. Castlestuart Stuart, he suggested the following alterations in the Extra Prize List:—

1. Substitute for No. 3 the following:—

Collection of Forage.

(a) *Fine*, suitable for horses, not less than 10 lbs. of each variety, prize Rs. 10.

(b) *Coarse*, suitable for buffaloes, etc., not less than 10 lbs. of each variety, prize Rs. 10.

2. To abolish Nos. VI, VIII and IX altogether, and substitute the two following:—

VI. A collection of sorghums in ear, not less than 5 ears of each variety, prize Rs. 10.

VIII. A collection of castors, not less than 5 spikes and 2 lbs. of cleaned seeds of each variety, prize Rs. 10.

“The idea as regards the forage is,” Mr. Sim wrote, “that fodder for cattle and buffaloes is as useful—from the commercial point view—as fodder for horses. It is, therefore, advisable to retain the coarse stuff as well as the fine, and only to separate them. This the proposed arrangement does. It abolishes the distinction between green and hay, because at present no one but the Municipality makes hay, and no special prize for it is needed. As regards No. VI, VIII, IX all here agree that the present collections have simply become stereotyped, and serve no useful purpose whatever; instead, it is proposed to substitute two conspicuous branches of crops, to be changed every year. Thus, this year, it is proposed to take sorghums and castors, next year, two other branches would be taken, and so on, each year in rotation.”

Resolutions.—The following Resolutions were then passed:—

1. That with reference to the Extra Prize List in the Prize Schedule, the following alterations be made:

A. No. II. (a) Best samples of Aloe fibre, not less than 5 lbs. of each, prize a Bronze Medal.

(b) Best collection of Plantain fibre from varieties to be specified, 5 lbs. of each variety, prize a Bronze Medal.

B.—No. III. To substitute the Hon'ble Mr. H. A. Sim's suggestions.

C.—To abolish Nos. VI, VIII, IX and to substitute sorghums and castors.

2. That with reference to the pay of the clerks in the office, no requests will be considered until after the annual financial statement has been drawn up.

3. That with reference to Mr. Stradiot's letter, Mr. Stradiot be informed that the Society relinquish any claim for subscription.

Contributions.—The Honorary Secretary then intimated that the following contributions had been made to the Society during the month of November :—

Report of the Department of Land Records and Agriculture, Assam, for the years 1901-02, 1902-03.

Report of the Agricultural Branch of the Department of Land Records and Agriculture, Bengal, for the year ending 31st March, 1903.

Bulletin of the Department of Agriculture, Jamaica, Vol. I, Parts 9 & 10, edited by William Fawcett, Esq., B.Sc., F.L.S.

The *Indian Forester*, Vol. XXIX, No. 11, edited by E. P. Stebbing, Esq., F.L.S.

Agricultural Bulletin of the Straits and Federated Malay States, edited by H. N. Ridley, Esq., M.A., F.L.S.

Planting Opinion, Vol. VIII, Nos. 44, 45, 46, 47.

The *Gardeners Chronicle*, Vol. XXXIV, Nos. 875, 876, 877, 878, 879, purchased.

Flora of the Upper Gangetic Plain and of the adjacent Siwalik and sub-Himalayan Tracts, Vol. I, Part I, by Dr. J. F. Duthie, B.A., F.L.S.

From the Imperial Department of Agriculture for the West Indies, Bulletin No. 23, notes on Poultry, No. 24.

No. 25. Groundnuts in the West Indies.

No. 26. Seedling and other canes at Barbados, 1903.

Proceedings of the Agricultural and Horticultural Society of India from July to September 1903.

Agricultural News, Vol. II, Nos. 35, 36.

Issued by the Commissioner of the Imperial Department of Agriculture of the West Indies.

Curtis's Botanical Magazine, Vol. LIX, No. 707, issued by Sir Joseph Dalton Hooker, M.D., etc.

The following plants and seeds were presented to the Society during the month of November :—

From M. Ridley, Esq., Superintendent, Government Horticultural Gardens, Lucknow.

3 cases of plants, 67 in all.

From W. Gollan, Esq., Superintendent, Government Botanic Gardens, Saharanpur.

1 packet of seeds of *Pinus longifolia*.

From H. H. the Maharajah of Bobbili.

2 Green Dwarf Cocoanuts.

From W. H. Johnson, Esq., Curator, Botanic Station, Old Calabar.

1 packet of seeds of *Funtumia elastica*.

From Asst. Superintendent, Government Farm, Poona.

Cuttings of Cassava, *viz.*:—

12 Cienapura.

12 Zegrita.

12 Blanquita.

Plants issued.—One case containing 17 plants was despatched to H. F. Macmillan, Esq., Curator, Royal Botanic Gardens, Ceylon.

New member.—The Rajah of Kurupan was proposed and elected an ordinary member in Class A.

SUPERINTENDENT'S NOTES FOR NOVEMBER.

Visit to Malabar.—In accordance with the Resolution passed at the Committee Meeting held on the 5th of October, I availed myself of the first opportunity to proceed to Malabar.

Mr. A. F. Pinhey kindly offered to give me assistance, and it was thanks to his help and guidance, that my visit was a success. I left Madras by the evening Mail train of the 7th November. It was raining heavily, and in consequence trouble was anticipated on the line. I reached Calicut, however, without mishap.

The first point worth noting was the large Bamboo reserves, which demarcate the boundary between Coimbatore and Malabar. This forest extends for miles along the boundary. A little further on we got a glimpse of the Barada Puzha river, which marks the boundary between Cochin and Malabar. After leaving Palghat, the aspect of the country perceptibly changes. On the left are seen the Hills of Cochin and on the right are the Nilgherries giving a wild picturesque appearance to the country. Many of the slopes of the hills are thickly wooded, with isolated clearings made by the natives for the cultivation of their crops. I noticed the natives had adopted

the system of terracing the cultivated portion of the hill slopes, an excellent method for preventing waste of soil during the Monsoons. *Lantana*, "The Planter's Curse," is common everywhere, taking possession of every piece of land that has been cultivated. Another common weed and one which I was told was as troublesome as *Lantana* is the *Mimosa pudica*. This should not make the soil deteriorate, but, on the other hand, enrich it with nitrogen, and if dug into the ground as a green manure, should prove a valuable fertiliser. There was nothing further to note before reaching Ferok, a large wood depôt chiefly of Teak, which is floated down the Beypore river from the Nilambur Teak forests.

The first thing that strikes one when nearing Calicut, is the extensive plantations of the Cocoanut Palm, *Cocos nucifera*. Every available space appears to be taken up for its cultivation. The system of cultivation there is far in advance of that in and around Madras, but the West Coast has the advantage in its climatic conditions and also in the certain supply of water, which makes irrigation easy.

During my short stay in Calicut Mr. Pinhey placed a small detached Bungalow at my disposal. Mr. Pinhey's house and garden are situated on the crest of East Hill, which affords a splendid view of the surrounding country. His garden contained many interesting specimens and several economic plants. Here I saw two fine old specimens of the African oil palm, *Elæis guineensis*, or, as it is known there, the wild cocoanut. These plants were seeding freely and seedlings were germinating in all parts of the garden. In a hollow of the garden there were growing fine specimens of *Pimenta acris*, *Nephelium litchi*, the Ceara rubber (*Manihot glaziovii*) and a few coffee plants. Amongst the ornamental plants, I noticed fine bushes of *Rondeletia speciosa*, *Quassia amara*, *Cryptostegia grandiflora* and *Porana volubilis*. The sandal-wood (*Santalum album*) grows freely, but is useless as a commercial product. Annuals and Cannas appeared to do well, and the ferns were especially fine.

On the Monday I paid a short visit to Mr. Rankin who is now in charge of Plantation House. I had previously heard of the small plantation of Para rubber there from Mr. Ferguson who was formerly in charge. Plantation House is situated on the Wynaad road, 3 miles out of Calicut. The Para trees, 28 in number, are planted in a deep hollow of the garden, where they no doubt receive a good supply of water. The trees are about 25 years old and average 50 feet in height and 12 inches in diameter. Some of the plants were growing on a single stem,

whilst others had been allowed to branch at about 3 feet from the ground. Whether this branching was caused through the trees being damaged when young, or whether experiments had been tried as to the better method of growing the tree, *i.e.*, on a single stem, or with two or more branches, by heading the young plant and selecting the growths, I could not ascertain. Mr. Ferguson in 1900 tapped a few of these trees, but the results of these tapplings were not forthcoming. Early in 1903 Mr. Prôudlock, Curator of the Government Botanic Gardens, Ootacamund, tapped several of them, and the coagulated latex together with photographs of the trees were exhibited by him at the Madras Industrial Exhibition, 1903-04. In the same gardens were a few plants of *Castilloa elastica* and *Manihot glaziovii*. A very fine variety of pineapple is also cultivated here, producing fruits averaging 8 lbs. in weight. It is noticeable that these plants were not cultivated on the ridge system, so often recommended. I noticed well established plants of the oil palm, and it would be interesting to know when and by whom they were introduced. The specimens I saw are considerably older than the plants growing in the Society's gardens. A valuable industry might be started in Calicut if this palm were planted there on a large scale.

I left Calicut on the Tuesday morning and cycled the $25\frac{1}{2}$ miles to Pudupadi, where I made a stay of 2 days, and collected a number of ferns and a few flowering plants. On one of my trips up the Tamracharri Pass I came across a herbaceous plant which, on close examination, I found to contain a good fibre in its outer bark. On enquiring from the natives as to its uses I was informed that a cloth equal to silk is prepared from the fibre. I succeeded in getting several plants, which are growing well. On Saturday in company with Mr. Day I prospected a large stretch of virgin jungle near Meppadi, and was rewarded by finding several good kinds of orchids. I also came across for the first time *Adiantum cuneatum*. On my return to Pudupadi I visited Cotecovil estate. Mr. Glenie, the Superintendent, kindly showed me over his tea plantation and also the factory. Mr. Glenie is a lover of orchids, and his collection is a very creditable one, considering they have all been collected from the surrounding districts. I left here on Monday, and on my way down the Ghauts, collected a number of orchids between Vayitri and Lakhadi. There are a number of abandoned coffee estates in this part, which are now overrun with bamboo and rough jungle growth. I hope to give a detailed list of the plants collected at an early date.

COMMITTEE MEETING.

At a Committee Meeting held in the Society's Library at 7 A.M. on Tuesday, the 8th of December, the following gentlemen were present :—

The Hon'ble Mr. Justice H. T. BODDAM, *in the Chair*.

C. A. BARBER, Esq.

R. T. MENZIES, Esq.

V. G. LYNN, Esq.

CHAS. SOWDEN, Esq.

H. E. HOUGHTON, Esq.

The Hon'ble Mr. Justice R. S. BENSON.

L. E. KIRWAN, Esq., *Honorary Secretary*.

Resolutions.—The following Resolutions were passed :—

1. That an application should be made to Capt. R. D'A. Fife, with the view of obtaining the loan of His Excellency's tents for the coming Flower Show.

2. That plans be drawn up and estimates submitted for the repairs of the Superintendent's bungalow, and also for new lines.

3. That the application of the Hon'ble Nawab Syed Mahomed for the loan of the Gardens for the purpose of a Garden Party be refused.

4. That the following be made a Bye-law :—

That up country members desirous of engaging gardeners through the agency of the Society must send a remittance with such application sufficient to cover the travelling expenses, etc., of the man engaged

Contributions.—The Honorary Secretary then intimated that the following contributions had been received during the month of December :—

Agricultural Bulletin of the Straits and Federated Malay States, Vol. II, No. 11, edited by H. N. Ridley, Esq., M.A., F.L.S.

Annual Report on the Taj and other Government Gardens at Agra for the year 1902-03, by A. E. P. Griessen, Esq., Superintendent.

Desideratum from the Botanic Gardens, Zurich, for the Winter, 1903-04.

Prize Schedule of the Horticultural Show to be held at Bangalore on January 28th, 1904.

Government of Madras Revenue, G.O. No. 1056A, 14th October, 1903—Subject : Bark and Quinine.

The *Journal of the Royal Horticultural Society of England*, Vol. XXVIII, Parts 1 and 2, edited by the Rev. W. Wilks, M.A., Secretary.

Rivista Critica Del Genere Gossypium pel Dottor. Angelo Aliatta 1903.

Agricultural News, Vol. II, No. 37, 38, issued by the Commissioner of Agriculture for the West Indies.

The *Tropical Agriculturist*, Vol. XXIII, No. 6, edited by Messrs. A. M. & J. Ferguson, Colombo.

Department of Land Records and Agriculture, Central Provinces. Season and Crop Report for the year 1902-03.

The *Indian Forester*, Vol. XXIX, No. 12, edited by E. P. Stebbing, Esq., F.L.S.

The *Queensland Agricultural Journal*, Vol. XIII, Part 8, edited by A. J. Boyd, Esq., F.R.G.S.Q.

Annual Report on the Experimental Farms and Gardens in the Bombay Presidency for the year ending 31st March, 1903.

Annual Report on the working of the Sewage Farm at Manjri for 1902-03.

Experimental Station Record, Vol. XV, No. 3, from the United States Department of Agriculture

Curtis's Botanical Magazine, Vol. LIX, No. 708, by Sir Joseph Dalton Hooker, M.D., etc.

Bulletin of the Department of Agriculture, Jamaica, Vol. I, Part II, edited by William Fawcett, B.S.C., F.L.S.

The *Gardener's Chronicle*, Vol. XXXIV, Nos. 880, 881, 882, 883 and 884. (Purchased.)

Reports on the Experimental Farms, Ottawa, for the year 1903.

Planting Opinion, Vol. VIII, Nos. 48, 49, 50 and 51.

Verslag omtrent den Stoot Van Slands. Plantentum te Buitenzorg over Het jaar, 1902.

The following plants and seeds were received during the month of December :—

From Major D Prain, I.M.S., Superintendent, Royal Botanic Gardens, Calcutta.

2 lbs. of *Livistona Jenkensii*.

5 lbs. of *Phoenix rupicola*.

From M. Ridley, Esq., Superintendent, Agri-Horticultural Society, Lucknow.

2 *Ficus Carica* var.

2 Do. do.

2 Do. do.

2 Do. do.

Plant issued.—The following plants were sent out during the month of December :—

Miss E. Chase, M.D., Camaran Island, near Aden.

27 plants, of sorts.

To W. Oberlin, Esq., Kodambaukum.

37 plants, of sorts.

$\frac{1}{2}$ lb. Tall Russian Sunflower seeds.

$\frac{1}{2}$ lb. Lucerne seeds.

New members.—The following were proposed and elected as ordinary members during the month of December :—A class. Horace A. Nelson, Esq., Rev. J. Breeden; B class. M. K. Subba Row, Esq., M. Sundresa Row, Scindia Sahib, A. W. Macrae, Esq., H. F. Davy, Esq.

SUPERINTENDENT'S NOTES FOR DECEMBER.

Cryptostegia grandiflora.—With reference to the samples of rubber and fibre, which were collected from this jungle plant and sent to the Imperial Institute, London, in April last, the following is a full Report in detail, received from Professor Wyndham R. Dunstan, M.A., F.R.S., Director of the Imperial Institute. It will be seen that the rubber is of medium quality, and is likely to obtain favour among English buyers, and that the fibre is of a superior quality and equal to that of *Marsdenia tenacissima*.

THE IMPERIAL INSTITUTE

OF THE

UNITED KINGDOM, THE COLONIES AND INDIA.

IMPERIAL INSTITUTE ROAD, LONDON, S.W.

21st October, 1903.

DEAR SIR,—I send herewith a Report on the rubber collected from *Cryptostegia grandiflora*, a sample of which arrived by the same Mail as your letter of the 27th May, 1903.

I also send a Report on the fibre derived from the same plant, a sample of which accompanied your letter of the 3rd June.

Both these materials have been examined in the Scientific and Technical Department of the Imperial Institute, and have been also referred to technical experts for information as to their commercial value. You will observe that in both cases a favourable conclusion may be drawn from the results of the examination and valuation of these products. If the rubber and the fibre can be produced of the same or better quality on a large scale, and a regular supply

depended upon, it seems likely that they would find a ready sale in the London market.

I shall be interested to learn further particulars on this point, and shall be happy, if you desire it, to bring you into communication with the brokers who are willing to take further action in the matter.

In accordance with our usual practice, copies of the Reports now enclosed are being forwarded to the Reporter on Economic Products to the Government of India in Calcutta.

I am,

Yours faithfully,

(Signed) WYNDHAM R. DUNSTAN,

Director.

REPORT ON THE RUBBER OF *CRYPTOSTEGIA GRANDIFLORA*.

By Professor WYNDHAM R. DUNSTAN, M.A., F.R.S., *Director*.

This specimen of the rubber of *Cryptostegia grandiflora* was forwarded to the Imperial Institute by the Secretary of the Agri-Horticultural Society, Teynampett, Madras, with a request that it should be submitted to chemical examination and commercial valuation. In the accompanying letter, No. 722, dated May 27th, 1903, it was stated that considerable difficulty is experienced in obtaining the rubber from the plant, since the rapid coagulation of the latex prevents a continuous flow, and in these circumstances information was desired as to the most suitable method of collection. The rubber submitted for examination was prepared by bruising the bark and collecting the latex as it exuded.

The sample consisted of three flattened cakes weighing together about 1 lb. They were dark brown in colour externally, but much lighter and slightly porous within; the pores contained a small amount of uncoagulated latex and a quantity of dark brown liquid having an acid reaction; a little vegetable *débris* was also present. The rubber on arrival was soft but not sticky, very elastic, and possessed fair tenacity. After keeping for some time, however, it hardened a little and then exhibited a tendency to tear when stretched.

A chemical examination gave the following results:—

| | | | Sample as received. per cent. | Calculated for dry material. per cent. |
|------------|-----|-----|-------------------------------------|--|
| Moisture | ... | ... | 24.7 | ... |
| Caoutchouc | ... | ... | 67.4 | 89.5 |
| Resin | ... | ... | 5.9 | 7.9 |
| Dirt | ... | ... | 2.0 | 2.6 |

It will be seen from these figures that the rubber is of very fair quality, the dry material containing 7.9 per cent. of resin and 89.5

per cent. of caoutchouc. The amount of moisture in the sample as received was excessive, but this could be remedied by pressing out the liquid from the freshly collected rubber and thoroughly drying it in the form of thin cakes or sheets.

A sample of the rubber, together with a statement of the above results, was submitted for commercial valuation to brokers, who report that at the present time it would be worth about 2s. 4d. per lb. Medium qualities of rubber have been very scarce in the London market for some time, and the present moment offers a favourable opportunity for forwarding a trial consignment of the rubber.

Very little has been recorded concerning the methods of obtaining rubber from the two species of *Cryptostegia*. In the case of *Cryptostegia grandiflora* it appears to be generally agreed that the collection is very troublesome, and it has been stated that the cost of operations on a large scale would be so great that the undertaking would probably prove unremunerative. In his lectures on the sources of commercial indiarubber (Journal of the Society of Arts, XLVI, 788), Sir D. Morris suggested that "it is quite possible that by coppicing the plant and taking yearly crops of shoots this plant might yet be rendered of value."

With respect to the difficulty of obtaining a continuous flow of latex from the plant, experiments might be made, if they have not been made already, to ascertain whether this is the case at all seasons of the year. The latex would probably run much more freely during the rainy season than in the dry period, and the rapid coagulation would perhaps not occur. It may be mentioned however that in the case of *Cryptostegia Madagascariensis* it has been asserted that the rubber furnished by the latex during the wet season is a very inferior product to that obtained in the dry period. This point would therefore require to be taken into consideration in any experiments with the Indian plant.

The method by which the sample under notice was prepared appears to have given very satisfactory results, only a very little vegetable matter being included with the rubber, but it is impossible to say whether it could be carried out so successfully upon a large scale.

20th October, 1903.

(Signed) WYNDHAM R. DUNSTAN.

REPORT ON THE FIBRE OF CRYPTOSTEGIA GRANDIFLORA.

By Professor WYNDHAM R. DUNSTAN, M.A., F.R.S., *Director*.

This sample of fibre was forwarded for examination by the Agricultural Society, Teynampett, Madras, and is referred to in a letter, No. 754, dated 3rd June, 1903. It is stated that the plant occurs wild throughout the district. The present sample of fibre is said to have been prepared by steeping the branches in water for three days; the fibre was then easily removed and was afterwards washed with water.

The sample consisted of about 3 oz. of a nearly white, fine, strong fibre with a staple of average length, 16—20 inches. In its general character and appearance, this fibre resembles that of *Marsdenia tenacissima* on which a Report was recently supplied by the Imperial Institute to the Government of India. The results of the chemical examination by the Scientific and Technical Department of the Imperial Institute show that these fibres are also very similar in their chemical properties and behaviour. The two plants are allied botanically, both being climbing shrubs of the N. O. *Asclepiadaceæ*.

The results alluded to are given below together with those obtained in the case of *Marsdenia tenacissima*—

| | | | | Cryptostegia. | Marsdenia. |
|--------------------------|------|-----|-----|---------------|------------|
| | | | | per cent. | per cent. |
| Moisture ... | ... | ... | ... | 7.9 | 7.7 |
| Ash ... | ... | ... | ... | 0.95 | 1.5 |
| A—Hydrolysis | Loss | ... | ... | 5.2 | 7.8 |
| B—Do. | „ | ... | ... | 9.8 | 8.9 |
| Mergerising | „ | ... | ... | 4.3 | 4.9 |
| Acid purification | „ | ... | ... | 1.2 | 3.5 |
| Nitration | Gain | ... | ... | 49.0 | 53.9 |
| Cellulose | | ... | ... | 92.0 | 91.5 |
| Length of ultimate fibre | | .. | .. | 10-60 mm. | 10-30 mm. |

The fibre contains little or no lignocellulose; this is shown especially by the absence of colour in the nitration product, and by the fact that when the chlorinated product, obtained in the course of the estimation of cellulose, is treated with sodium sulphite, no red coloration is produced. It is exceptionally resistant to the action of alkali, as is indicated by the comparatively small losses sustained on hydrolysis and mercerising. The remarkable quality of the fibre is shown also by the unusually high percentage of cellulose, and by the large increase of weight on nitration. In all these particulars, the fibre of *Cryptostegia* resembles that of *Marsdenia*. The ultimate fibre, however, is of greater length than that of *Marsdenia*; its average length is about 30 mm. (1.2 inches), which is equal to that of flax.

The sample has been submitted to leading fibre brokers for commercial valuation, who report that the fibre is of good quality, and worth about £30 per ton. They are of opinion that the fibre is likely to prove of considerable value, but that its commercial possibilities can only be arrived at by submitting it to manufacturing tests, and they ask to be supplied with two or three bales for this purpose. They point out that the fibre should be as long and even as possible, and that the long and short filaments should be kept separate; in the present sample, the length is very irregular.

From the foregoing Report, it is evident that the fibre is of excellent quality. If, therefore, it can be obtained in sufficient quantity to admit of its commercial exploitation, it seems desirable that the trial consignment asked for by the brokers should be forwarded as soon as possible.

20th October, 1903.

(Signed) WYNDHAM R. DUNSTAN.

The Weather.—Towards the latter end of the month the weather was very unsettled. The effect of two cyclones was felt in Madras; in the second which extended along the Coromandel Coast from Madras to Pondicherry, the amount of rain which fell in the three days exceeded all records for the last 50 years. Happily little damage was done in the Gardens, although at one time a third part of the Ornamental Gardens was one foot under water.

L. E. KIRWAN,
Honorary Secretary.

Financial Statement, October to December 1903.

69

| PARTICULARS OF RECEIPTS. | | | Amount. | | Total. | PARTICULARS OF DISBURSEMENTS. | | | Amount. | | Total. | |
|--------------------------|------------------------------------|------|---------|-------|--------|-------------------------------|----|------------------------------------|---------|-------|--------|-------|
| | | | RS. | A. P. | RS. | A. P. | | | RS. | A. P. | RS. | A. P. |
| By | Balance with Messrs. Binny & Co. | | | | | | To | Establishment Superintendent's | | | | |
| | on the 30th September, | 1903 | 979 | 8 10 | | | " | Do. Salary .. | 675 | 0 0 | | |
| " | Do. of Petty Cash on hand on | | | | | | " | Office and Garden.. | 528 | 11 9 | 1,203 | 11 9 |
| " | the 30th September, 1903 .. | | 200 | 0 0 | | | " | Garden Coolies, Permanent | 167 | 8 6 | | |
| " | Security of Cashier deposited with | | | | 1,179 | 8 10 | " | Do. Temporary | 141 | 4 9 | 308 | 13 3 |
| " | Messrs. Arbuthnot & Co. .. | | 750 | 0 0 | | | " | Commission paid to Superintendent | | | | |
| " | Do. of Seeds' Clerk deposited in | | 200 | 0 0 | | | " | at 2½ per cent. on receipts .. | | | 66 | 15 3 |
| " | the Post Office Savings Bank. | | | | 950 | 0 0 | " | Superintendent's Travelling Ex- | | | 75 | 8 0 |
| " | Subscription from Members of A | | | | | | " | penses to Malabar .. | | | | |
| " | Class .. | | 483 | 0 0 | | | " | Seeds, Plants, Flowers and Fruit | | | | |
| " | Do. from Members of B | | | | | | " | Trees .. | | | 1,270 | 5 1 |
| " | Class .. | | 78 | 0 0 | | | " | Charges recoverable account .. | | | 262 | 13 9 |
| " | Government Grant for the month | | | | 561 | 0 0 | " | Garden requisites, including Pots, | | | | |
| " | of September 1903 .. | | | | | | " | etc. .. | | | 142 | 7 10 |
| " | Do. do. for the month | | 250 | 0 0 | | | " | Out-door work of laying Gardens, | | | | |
| " | of October 1903 | | 250 | 0 0 | | | " | etc. .. | | | 86 | 2 9 |
| " | Do. do. for the month | | 250 | 0 0 | | | " | Municipal Tax for House, Water and | | | 22 | 14 0 |
| " | of November 1903 .. | | 250 | 0 0 | | | " | Light .. | | | | |
| " | Do. Extra Grant for the | | 500 | 0 0 | 1,250 | 0 0 | " | Discount paid to Bankers on | | | | |
| " | year 1903 .. | | | | | | " | mofussil cheques .. | | | | |
| | | | | | | | " | Garden expenses of charges on | 0 | 8 0 | | |
| | | | | | | | " | Plants sent free to other Gardens. | | | 4 | 12 0 |
| | | | | | | | " | Petty charges including carriage | | | 14 | 0 0 |
| | | | | | | | " | hire, etc. .. | | | | |

**The Proceedings of the Annual General Meeting
of the Members of the Agri-Horticultural
Society of Madras for the year 1903-04, held
on the 29th March, 1904, at 7-30 a.m.**

The following gentlemen were present:—

| | |
|--|--|
| The Hon'ble Mr. Justice H. T. BODDAM (<i>in the Chair</i>). | H. E. HOUGHTON, Esq. |
| The Hon'ble Mr. H. BRADLEY, I.C.S. | G. NARAYANASAWMY CHETTY. |
| Col. R. F. R. FORMBY, I.A. | V. G. LYNN, Esq. |
| N. SUBRAHMANYAM, Esq., <i>Honorary Treasurer.</i> | R. T. MENZIES, Esq. |
| C. SOWDEN, Esq. | L. E. KIRWAN, Esq., <i>Honorary Secretary.</i> |
| | JOHN ADAM, Esq. |

Proposed by G. Narayanasawmy Chetty, seconded by Mr. C. Sowden, that the Hon'ble Mr. Justice Boddam do take the Chair.

The Honorary Secretary having presented his Report the Hon'ble Mr. H. Bradley proposed and the Hon'ble Mr. Justice Boddam seconded that the Report be adopted.—Carried.

The following Resolutions were then passed:—

(1) Proposed by Mr L. E. Kirwan and seconded by the Hon'ble Mr. Bradley, that Mr. J. L. Walker be elected an Extraordinary Member.

(2) Proposed by Mr. L. E. Kirwan and seconded by Mr. H. E. Houghton, that Rule 30 of the Society's Bye-laws be altered and should read as follows:—

Members wishing to borrow books from the Society's Library may do so, after getting a special permit from the Honorary Secretary.

THE HONORARY SECRETARY'S REPORT.

Government Grant.—The monthly grant of Rs. 250 and the extra grant of Rs. 1,000 have been received. A budget estimate for 1903-04 was submitted in August 1903, and the usual sum of Rs. 4,000 was sanctioned by Government.

The Committee desire to record their thanks to Government for their liberal grant.

Finance.—The income has been steadily increasing and this year amounted to Rs. 17,083-6-0. The expenditure has also increased and amounted this year to Rs. 17,024-14-3. The year closed with a balance to credit of Rs. 1,580-15-3.

The increase in expenditure is accounted for by the completion of the repairs to the Office building, to the fern and plant-house, and to the boundary wall, and by an increase of pay to the Office staff.

Weather.—The weather during the whole of the year was exceptionally good; the rainfall was considerably above the average, and the average temperature was lower than in former years. The coolness of the season caused many trees and shrubs to flower later than usual, and, in some cases, plants bore a second crop of flowers; this was very noticeable with the *Eucharis* lilies.

As will be seen by the tabular statement, the rainfall was evenly distributed over the whole twelve months.

Monthly Rain Report for Madras in 1903.

| Months. | Dates on which rain fell. | Inches and Cents. |
|--------------------------------|--|-------------------|
| January | .. 4th, 5th, 6th and 23rd | 3 64 |
| February | .. 21st, 22nd and 23rd | 2 17 |
| March | .. Nil. | Nil. |
| April | .. Nil. | Nil. |
| May | .. 18th, 19th, 20th and 21st | 5 32 |
| June | .. 15th, 17th, 22nd and 23rd | 1 46 |
| July | .. 5th, 8th, 11th, 23rd, 28th and 30th | 3 80 |
| August | .. 7th, 13th to 15th, 17th, 18th, 25th, 28th and 29th | 6 45 |
| September | .. 1st, 9th, 10th, 12th, 15th, 16th, 20th to 25th and 30th | 9 66 |
| October | .. 3rd, 19th, 24th, 25th, 27th to 29th | 8 84 |
| November | .. 4th to 13th, 26th and 27th | 17 74 |
| December | .. 4th to 7th, 19th, 20th, 29th to 31st | 18 55 |
| Total number of rainy days 71. | | 77 63 |

Water-supply.—Owing to the favourable rains there was a considerable saving in the cost of Red Hills water. The quantity used during the year amounted to 2,915,000 gallons as compared with 3,485,800 gallons in the previous year, thus showing a saving of Rs. 203-9-0.

Table showing the amount of water consumed each month.

| Months. | | Ornamental Gardens. | Nursery Gardens. | Total. |
|-----------------|-------|------------------------|---------------------|-----------|
| January | .. .. | 155,000 | 173,000 | 328,000 |
| February | .. .. | 139,000 | 189,000 | 328,000 |
| March | .. .. | 178,800 | 123,900 | 302,700 |
| April | .. .. | 333,800 | 150,800 | 484,600 |
| May | .. .. | 20,900 | 106,300 | 127,200 |
| June | .. .. | .. | 160,400 | 160,400 |
| July | .. .. | 156,400 | 52,900 | 209,300 |
| August | .. .. | 197,800 | 63,000 | 260,800 |
| September | .. .. | 132,100 | 60,400 | 192,500 |
| October | .. .. | 171,400 | 80,800 | 252,200 |
| November | .. .. | 46,600 | 65,800 | 112,400 |
| December | .. .. | 88,600 | 68,300 | 156,900 |
| Total gallons.. | | 1,620,400 | 1,294,600 | 2,915,000 |

Library.—This section has received the usual amount of attention. The following books and periodicals were bound and arranged during the year:—

New Commercial Plants and Drugs, 3 volumes.

The Gardener's Chronicle, Vols. XXV, XXXI and XXXII.

Chronological Table for Tobacco, by Dr. Prof. O'Conus, 5 Continents.

Jamaica Bulletin, Vols. 5 to 9.

Records of the Botanical Survey of India, 1 to 13.

The Indian Forester, Vol. 18.

Curtis's Botanical Magazine, Vol. 18.

The Tropical Agriculturist, 1901-02, Vols. 21 and 22.

The Queensland Agricultural Journal, Vols. 7 to 11.

Journal of the Agri-Horticultural Society of India, Vols. 7, 8, 9 and 13.

Washington Experiment Station Record, Vols. 12 and 13.

Agricultural Ledger, 1902.

Planting Opinion, 1901-02.

Flora of the Presidency of Bombay, Vol. I, Parts 1, 2 and 3.

Journal of the Royal Horticultural Society, Vol. 27, Parts 1 to 4.

Exchanges.—During the year under review we have received numerous contributions of plants and seeds for experimental cultivation, and have given plants and seeds from these gardens in exchange. The exchange seed list, the first copy of which was issued in 1901, has not been kept up-to-date, owing to the incompetency of the clerk. It is hoped that with the reorgan-

sation of the Office staff, this work will be better attended to this year. We take this opportunity of thanking the following correspondents for their generous donations:—

| | |
|----------------|--|
| Adelaide... | ..The Director of the Botanic Gardens. |
| Bangalore | ...The Superintendent of the Government Botanic Gardens. |
| Do. ... | ...Messrs. M. Rudrappa & Sons. |
| Baroda ... | ...The Superintendent of Public Gardens and Parks |
| Bobbili ... | ...The Rajah. |
| Bombay .. | ...The Superintendent of the Victoria Gardens. |
| Calcutta .. | ...The Superintendent of the Royal Botanic Gardens. |
| Do. ... | ...The Secretary, Agri-Horticultural Society of India. |
| Calicut ... | ..A. F. Pinhey, Esq., I.C.S. |
| Camaran Island | ...Miss E. Chase, M.D. |
| Cape Colony | ...Miss A. Beyers. |
| Ceylon ... | ...The Director of the Royal Botanic Gardens. |
| Chickmaglur | ...H. W. Raikes, Esq. |
| Dublin ... | ...The Curator, Trinity College. |
| Edinburgh | ...The Regius Keeper of the Royal Botanic Gardens. |
| Glasnevin | ...The Director of the Royal Botanic Gardens. |
| Gold Coast | ...The Curator of the Botanic Gardens. |
| Grenada... | ...The Curator of the Botanic Gardens. |
| Gwalior ... | ...The Superintendent of the State Gardens |
| Kew ... | ..The Director of the Royal Botanic Gardens. |
| Kushroobagh | ...The Superintendent of the Govt. Gardens. |
| Lagos ... | ..The Curator of the Botanic Gardens. |
| London ... | ...Sir Charles Lawson. |
| Lucknow | ...The Superintendent of the Government Botanic Gardens. |
| Madagascar | ...The Director of Agriculture, Tamatave. |
| Madras | ...J. L. Walker, Esq.; G. A. Barber, Esq., Govt. Botanist; H. E. Houghton, Esq.; L. E. Kirwan, Esq.; V. G. Lynn, Esq.; Miss C. Burns; E. D. M. Hooper, Esq.; E. B. Powell, Esq.; Mrs. W. Scott; Col. J. Maitland; The Ven'ble Archdeacon A. A. Williams; The Superintendent, Guindy Park; C. J. Hay-Ellis, Esq.; The Superintendent, Robinson Park, and P. S. Sivaswami Iyer, Esq. |
| Madura ... | ...The District Forest Officer. |
| Mysore ... | ..Messrs. Venkatasawmi Raju & Sons. |
| Nagpore ... | ...The Superintendent of the Public Gardens and Parks. |
| Natal | ...The Director of the Public Gardens and Museum. |
| Nellakotta | ...F. W. F. Fletcher, Esq. |
| Ootacamund | ..The Curator of the Govt. Botanic Gardens. |
| Peradeniya | ...The Curator of the Royal Botanic Gardens. |
| Pondicherry | ...The Director of the Botanic Gardens. |

| | | |
|-----------------------|-----|--|
| Poona | ... | Prof. H. M. Page, College of Science, Assistant Superintendent, Agricultural Farm. |
| Saharanpore | ... | The Superintendent of the Govt. Botanic Gardens. |
| Saidapet | ... | G. T. Venkatarama Iyer, Esq. |
| Saigon (Cochin China) | ... | The Director of Agriculture. |
| Singapore Straits. | ... | The Director of the Botanic Gardens. |
| St. Petersburg | ... | The Director of the Imperial Botanic Gardens. |
| Tinnevely | ... | L. E. Buckley, Esq., I.C.S. |
| Trevandrum | ... | The Director of the Public Gardens and Museum. |
| Yercaud | ... | Mrs. J. C. Large. |

Flower Show.—The 65th Annual Floral Exhibition was held on the 28th February in the Nursery Gardens.

The Show was, on the whole, a success, the exhibits of Annuals being considered exceptionally good.

There was a regrettable falling off in the exhibits of fruits and vegetables from Bangalore, the plague regulations being responsible for this.

The attendance was large, and the money collected at the gate exceeded that of any other year.

His Excellency very kindly placed his Band at the Society's disposal, and during the morning it played a choice selection.

The Committee take this opportunity of thanking those gentlemen who undertook the difficult task of judging the various exhibits at the Show and also those gentlemen who so generously assisted by lending tents, tables, etc., the Commissioner of Police, and the President of the Municipality for his forethought in having had the roads watered on the morning of the Show.

Correspondence.—This has been in excess of other years. In the economic section the principal subjects of enquiry have been rubbers and fibres.

New Introductions.—We have not been so fortunate in raising seedlings, owing to there being no suitable shelter in the Gardens. A number of seedlings consequently perished during the rains. Better results have, however, been obtained in propagating some useful and rare plants.

Especial efforts have been made to improve the collections of Crotons, Hippeastrums, Hibiscus, Ferns and Orchids.

In the early part of the year letters were written to all the leading Botanical Gardens in India and Ceylon offering to exchange plants with them. Mr. P. Lancaster sent some

choice ferns and palms. From Mr. M. Ridley, of the Lucknow Gardens, several new Sellaginellas were received, besides a number of miscellaneous plants including several named Agaves, also a named collection of Caladiums. Mr Macmillan sent a collection of bulbs from Peradeniya, whilst Mr. W. Gollan, of the Saharanpore Botanical Gardens, sent a number of Hippeastrum bulbs and several Crotons and Hibiscus.

A list of plants new to these Gardens raised from seeds, and of plants presented to the Society is given below :—

| | |
|-----------------------------------|------------------------------------|
| <i>Guttiferæ.</i> | <i>Alternanthera versicolor</i> |
| <i>Mesua ferrea.</i> | <i>grandis.</i> |
| <i>Malvaceæ.</i> | Do. <i>paronichoides.</i> |
| <i>Hibiscus moschatus.</i> | Do. <i>amœna.</i> |
| Do. <i>macrophylla.</i> | <i>Aristolochiaceæ.</i> |
| Do. <i>lindata.</i> | <i>Aristolochia saccata.</i> |
| <i>Sterculiaceæ.</i> | <i>Urticaceæ.</i> |
| <i>Sterculia trichosyphon.</i> | <i>Artocarpus Cannoni.</i> |
| <i>Leguminosæ.</i> | <i>Castilleja elastica.</i> |
| <i>Milletia ovalifolia.</i> | <i>Euphorbia elastica.</i> |
| <i>Begoniaceæ.</i> | <i>Ficus Krishna.</i> |
| <i>Begonia Carolina.</i> | <i>Coniferæ.</i> |
| Do. <i>recurvifolia.</i> | <i>Cupressus funebris.</i> |
| Do. <i>rex var.</i> | Do. <i>Lusitanica.</i> |
| <i>Araliaceæ.</i> | <i>Orchideæ.</i> |
| <i>Aralia elegantissima.</i> | <i>Ærides crispum.</i> |
| <i>Panax (seedlings).</i> | Do. <i>giganteum.</i> |
| <i>Rubiaceæ.</i> | <i>Bulbophyllum sp.</i> |
| <i>Ixora barbata.</i> | <i>Cymbidium aloefolium.</i> |
| Do. <i>Javanica.</i> | Do. <i>sp.</i> |
| <i>Gardenia arborea.</i> | <i>Dendrobium aureum.</i> |
| Do. <i>lucida.</i> | Do. <i>album.</i> |
| <i>Coffea Bengalensis</i> | Do. <i>Jerdonianum.</i> |
| <i>Scrophularineæ.</i> | Do. <i>ramosissimum.</i> |
| <i>Lophospermum scandens.</i> | <i>Pholidota imbricata.</i> |
| <i>Russelia floribunda.</i> | <i>Siricanthus sp.</i> |
| <i>Acanthaceæ.</i> | <i>Scitamineæ.</i> |
| <i>Fittonia Pearcei.</i> | <i>Ellettaria cardamomum.</i> |
| <i>Justicia Lobbii.</i> | Do. <i>sp.</i> |
| Do. <i>Armstrongii.</i> | <i>Hedychium coronarium.</i> |
| Do. <i>ecboliam.</i> | <i>Bromeliaceæ.</i> |
| <i>Thunbergia Mysorensis.</i> | <i>Ananasa sativa var. (smooth</i> |
| <i>Verbenaceæ.</i> | <i>Cayenne).</i> |
| <i>Clerodendron unfortunatum.</i> | Do. <i>(green Ripley).</i> |
| <i>Labiataæ.</i> | Do. <i>(red Ripley).</i> |
| <i>Ocimum viride.</i> | <i>Amaryllidæ.</i> |
| <i>Amarantaceæ.</i> | <i>Agave Verschaffeltii.</i> |
| <i>Alternanthera nana aurea.</i> | Do. <i>celsiana.</i> |
| Do. <i>magnifica.</i> | Do. <i>rigida var. ixtiles.</i> |
| | Do. <i>recurvata.</i> |
| | <i>Amaryllis white fl.</i> |

Lily George } Local names of
Do. Coral } Natal bulbils.
Do. Tiger }

Crinum Powelli

Do. do. var *alba*.

Do. *Asiaticum* var. *variegatum*.

Dasyllirion glaucophyllum.

Watsonia sp.

Zephyranthes tubispatha.

Polyanthes tuberosa var. *variegata*.

Liliaceæ.

Chlorophytum elatum var.

Dracæna latifolia.

Do. *reflexa*.

Do. *Sydnei*.

Do. (seedling).

Palmææ.

Calamus fasciculatus.

Do. *rotang*.

Cocos flexuosa.

Cyrtostachys lacca

Euterpe sp

Ptychosperma Singaporensis.

Pandaneæ.

Pandanus sp. var. *variegatus*.

Cyperaceæ.

Gynerium argenteum (Panpas grass).

Isolepis gracilis.

Filices.

Adiantum scutum.

Adiantum cardiochlaena.

Do. *Mariesii*.

Do. *ancitense*.

Do. *rubellum*.

Do. *lathomi*.

Alsophila glabra.

Do. sp.

Anema rotundifolia.

Angiopteris erecta.

Blechnum sp.

Cheilanthes Mysorensis.

Davalia tenuifolia.

Do. sp.

Dicksonia flaccida.

Drynaria crucifolia.

Gleichenia sp.

Hemionitis arifolia.

Lastrea tenericaulis.

Lygodium flexuosum.

Nephrodium extensum.

Do. sp.

Pœcilipteris sp.

Pteris crenata

Do. *ensiformis*

Do. *Mayii*.

Do. *quadri-aurita*.

Do. *Wimsetti*.

Sellaginella erythropis.

Do. *rubella*.

Do. *Emiliana*.

Do. *gracilis*.

Do. *caulescens argentea*.

Do. *Africana*.

Do. *Brownii*.

Do. *viticlosa*.

Nursery Stock.—Although the sales of plants, etc., has considerably increased due to the favorable season and to advertising in the local papers, the number of plants in stock in the Nursery is in excess of that last year, as may be seen by the classified list given below:—

| | | |
|-----------------------|-----|---------------|
| Climbers | ... | 2,000 |
| Avenue and fuel trees | .. | 2,250 |
| Flowering shrubs | ... | 6,050 |
| Foliage plants | ... | 2,440 |
| Crotons | .. | 1,970 |
| Conservatory plants | .. | 1 050 |
| Economic plants | ... | 586 |
| Ferns | ... | 1,750 |
| Cannas | ... | 1,416 |
| Palms | ... | 4,231 |
| Total | ... | <u>23,743</u> |

In addition to the above, the following plants are in seed-pans and nursery beds:—

| | | | | |
|-----------------------|-----|-----|-----|-------|
| Palms | ... | ... | ... | 4,500 |
| Avenue and fuel trees | ... | ... | ... | 1,500 |
| Climbers | ... | ... | ... | 1,425 |
| Flowering shrubs | ... | ... | ... | 6,250 |
| Crotons | ... | ... | ... | 200 |
| Foliage plants | ... | ... | ... | 200 |

Plants, Seeds, Etc., Distributed.—There has been a heavy demand for rubber and fibre plants in the year under review. Of the different genera of rubber trees, Pará has been most in demand, and of fibre plants, the Sisal hemp (*Agave rigida* var. *Sisalana*) is still the most fancied.

The following is a list of seeds and plants distributed to Members and to Botanic and other public Gardens and sold:—

| NAME. | Members. | Botanic Gardens. | Sold. | Total. |
|----------------------------------|---------------|------------------|------------------|-----------------|
| Bulbs | 169 | 138 | 424 | 731 |
| Caladiums | 93 | .. | 105 | 198 |
| Casuarina seeds | .. | .. | 10 lbs. 6 ozs. | 10 lbs. 6 ozs. |
| Do. plants | .. | .. | 16,508 | 16,508 |
| Cassia auriculata | .. | .. | 5 packets. | 5 packets. |
| Climbers | 233 | 57 | 172 | 462 |
| Crotons | 134 | 105 | 199 | 438 |
| Economic plants | 54 | 50 | 9,583 | 9,687 |
| Ferns | 215 | 56 | 200 | 471 |
| Flower seeds, Packets | 194 | 19 | 1,411½ | 1,624½ |
| Do. Tins | 64 | .. | 7 | 71 |
| Groundnut | .. | .. | 2 lbs. | 2 lbs. |
| Guinea grass | .. | .. | 1 oz. | 1 oz. |
| Hariali grass | 4 ozs. | .. | 37 lbs. 9 ozs. | 37 lbs. 13 ozs. |
| Inga dulcis | 12 lbs. | .. | 123 lbs. 8 ozs. | 135 lbs. 8 ozs. |
| Indigenous seeds | .. | 55 | 116 | 171 |
| Lucerne seeds | 1 lb. 12 ozs. | 8 ozs. | 44 lbs. 7 ozs. | 46 lbs. 11 ozs. |
| Mango grafts, Madras kinds | .. | .. | 105 | 105 |
| Do. Imported | .. | .. | 224 | 224 |
| Miscellaneous plants | 1,451 | 318 | 6,021 | 7,790 |
| Palms | 300 | 81 | 1,112 | 1,492 |
| Potatoes | .. | .. | ½ maund. | ½ maund. |
| Pineapples | 7 | 29 | 42 | 78 |
| Paspalum dilatatum seeds | .. | .. | 14 lbs. 11 ozs. | 14 lbs. 11 ozs. |
| Do. do. roots | 200 | 150 | 450 | 800 |
| Pará rubber seeds | .. | .. | 20,000 | 20,000 |
| Do. plants | .. | .. | 200 | 200 |
| Rose plants | 24 | .. | 347 | 371 |
| Vegetable seeds, Packets | 21 | .. | 328 | 349 |
| Do. Tins | 60 | .. | 1 | 61 |
| Do. Weight | 66 lbs. | 8 ozs. | 135 lbs. 5½ ozs. | 202 lbs. |
| | 14½ ozs. | | | 12½ ozs. |

NEW AND RARE PLANTS.

Cassava (*Manihot utilissima*).—Cuttings of three varieties of the commercial Cassava were presented to the Gardens by the Director of Agriculture, Poona, late in the year. These, on arrival, were cut into small lengths and struck on a hot bed. The plants are very hardy and are readily propagated. It is hoped that a large stock of young plants will be available for distribution within the next few months.

Agave rigida var. Sisalana.—The demand for this fibre plant is still in excess of the supply in the Gardens. A few plants poled during the year and produced about 4,000 bulbils, which were quickly bought up. The plantation behind the Nursery grounds is looking well. The plants are growing vigorously and have a healthy appearance.

Victoria Regia.—This magnificent water-lily has done exceptionally well this year in the Nursery tank. Several leaves have been developed measuring over 8 feet in diameter.

Durio Zebithinus.—The Durians which were received from the Royal Botanical Gardens, Peradeniya, in 1902, have been tried in several selected spots in the garden, and, in every instance, they have failed to grow. It is evident from the repeated trials of this plant that it is not suited to Madras.

Japanese Bamboos.—The Bamboos which were mentioned in last year's Annual Report, as having been planted in the east corner of the Gardens, are growing vigorously, several having thrown out good healthy growths this year.

Rhopaloblasta hexandra.—One of these plants, received from Singapore, has taken kindly to the open ground, and is looking strong and healthy.

Phœnicophorum Sechellarum and Raffia Ruffia.—These have not been so successful. The former, has made little, if any, growth whilst the latter may be said to be quite a failure.

Pampas grass.—The Clump planted near the oval tank has grown better than was anticipated, and is at present a strong healthy plant with several growths.

Dendrocalamus giganteus.—This plant was reported last year as having developed a flowering branch. Towards the end of this year several more branches flowered. No seeds were produced from the first flowering branches. It is, however, hoped that seeds will be available from the later ones. The clump by the water tower is also showing signs of flowering.

These clumps of Bamboos were effective features of the Gardens, and the gaps which will be caused by their dying off will be very noticeable for some time.

Sarcostemna brevistigma. Syn. Asclepia Indica.—A specimen of this climbing plant is growing on the succulent mound. This is probably one of the first plants from which the ancient Hindus prepared an intoxicating liquor. The plant was known to them as the “*Soma*”, and the liquor prepared from it was known as the “*Elixir of Life*.”

The Lance-wood, Oxandra virgata.—There is only one specimen of this plant in the Gardens, growing on the west side of the Office. This plant does not look at all healthy and it looks as if it will not be able to withstand the hot season, more especially if the land winds should prove severe.

Coffea Arabica.—The small plantation on the site of the old leaf pits in the Botanic Gardens has done fairly well, though some of the plants have made but little growth. It is noticeable that those under the shade of a *Ficus* have done best. It is interesting to note that the plants continue to be entirely free from leaf-disease.

Lucerne.—A large quantity of Lucerne seed was imported from Australia this year and turned out well. The seed received which was the Bulgarian variety was clean and was a good sample. It germinated well and produced good strong plants.

Progress of Trees Transplanted.—The *Pterospermum acerifolium* planted behind the water tower has done remarkably well.

The specimen of *Catasbea spinosa*, which was lifted from under the *Kigelia* and planted in the corner of the Gardens behind the Office, did not suffer much in the operation of transplanting and is now looking as well as ever it did.

The two *Oreodoxa Regia* palms each 20 feet high which were lifted from the ground near the oval tank and planted in the Palmetum, suffered for a short time during the hot weather but quickly recovered, and are now looking as healthy as any of the palms growing near them.

The *Clavija Reddeliana* has appreciated its change of position and since being replanted has made two new growths.

All the timber and avenue trees planted in the open ground immediately behind the Nursery are growing well, but will still require care and attention.

Alterations and Improvements.—The Aroid house, immediately behind the Office, was removed in the early part of the year. Two large specimens of *Polyalthia longifolia*, growing by the succulent mound, were cut down. This improved the appearance of this part of the Gardens which previously was much congested.

The boundary wall, from the main gate to the eastern boundary, was repaired and coloured and a new roof was put on the Fernery. A portion of No. I Plant house was divided off by a wire netting partition as a special house for new and rare plants and for Orchids, the stock of which has been very much improved during the last year.

Committee Members.—During the year under review, Mr. H. E. Houghton resigned the Honorary Treasurership and was succeeded by Mr. N. Subrahmanyam.

Ex-officio member.—The Hon'ble Mr. J. N. Atkinson held the office of *ex-officio* member for the first half of the year, and the Hon'ble Mr. Castlestuart Stuart for the latter half.

Subscribing Members.—During the year 25 Members joined the Society—15 A Class and 10 B Class.

Resignations.—The number of resignations during the year was considerably less than in the preceding year. Eight members resigned, 4 died and 6 members were on the absentee list on the 31st of December.

The total number of members on the roll on December the 31st, 1903, was 119, *viz.*—79 A Class, 27 B Class, 3 Honorary Members and 10 Extraordinary Members.

Committee.—The following gentlemen were elected Members of the Committee for the ensuing year in addition to the *ex-officio* Member for Government:

The Hon'ble Mr. CASTLESTUART STUART, I.C.S.

The Hon'ble Dr. A. G. BOURNE, F.R.S., etc.

The Hon'ble Mr. C. J. WEIR, I.C.S.

G. W. DANCE, Esq., I.C.S.

C. A. BARBER, Esq., F.L.S.

C. SOWDEN, Esq.

The Hon'ble Mr. Justice H. T. BODDAM, *Chairman*.

The Hon'ble Mr. H. BRADLEY, I.C.S.

L. E. KIRWAN, Esq., *Honorary Secretary*.

R. T. MENZIES, Esq., *Honorary Treasurer.*
 J. G. SMITH, Esq.
 H. E. HOUGHTON, Esq.
 V. G. LYNN, Esq.
 G. NARAYANASWAMY CHETTY, Esq.

Before the Meeting closed, a cordial vote of thanks was unanimously accorded to Mr. L. E. Kirwan for the interest he had taken in the Society during his year of office, and also to Mr. N. Subrahmanyam for his work as Treasurer.

Members of the Society on 31st December, 1903.

President :

His Excellency the Right Hon'ble Lord AMPHILL, G.C.I.E.

Honorary Members :

L. A. Bernays, Esq. | General J. P. Ferrier.
 Sir J. D. Hooker, C.B., etc.

Extraordinary Members :

| | |
|---------------------------------|--------------------------------|
| Benson, Lieut.-Genl. R. | Steavenson, Joseph, Esq., B.A. |
| Bidie, Surgeon-Genl. G., C.I.E. | Whiteside, W. S., Esq. |
| Cox, Colonel H. W. H. | West, Henry C., Esq. |
| Duff, Sir M. E. Grant, G.C.S.I. | Moore, Col. the Hon'ble Sir |
| Lawson, Sir Charles A. | George. |
| Walker, J. L., Esq. | |

Subscribing Members (A Class) :

| | |
|--|--|
| Adam, John, Esq. | Cayley, B., Esq. |
| Amphill, Lord, His Excellency the Right Hon'ble, G.C.I.E. | Dance, G. W., Mrs. |
| Atkinson, the Hon'ble Mr. J. N., I.C.S. | Day, J. H. F., Esq. |
| Bannerman, Lieut.-Col. W. B. | Deane, C. T., Mrs. |
| Barclay, E., Esq. | Desikacharry, V. C., Esq. |
| Benson, the Hon'ble Mr. Justice R. S., I.C.S. | Formby, Lt.-Col. R. F. R., I.A. |
| Bobbili, H. H. the Maharajah, Kt., C.I.E. | Gaitskell, M. F., Mrs. |
| Boddam, the Hon'ble Mr. Justice H. T. | Greenall, R., Esq. |
| Bourne, the Hon'ble Dr. A. G., F.R.S. | Hammick, the Hon'ble Mr. M., C.I.E., I.C.S. |
| Bradley, the Hon'ble Mr. H., I.C.S. | Hannay, A. L., Esq. |
| Barber, C. A., Esq., F.L.S. | Henderson, A. E., Miss. |
| Buckley, L. E., Esq., I.C.S. | Hatchell, D. G., Esq. |
| Bannerji, A. R., Esq., I.C.S. | Hooper, E. D. M., Esq. |
| Chatterton, Alfred, Mrs. | Houghton, H. E., Esq. |
| Cowie, D. W. G., Esq. | Jones, R. Ll., Esq. |
| | Jugga Row Garu, Rajah. |
| | Keess, W., Esq. |
| | Kumara Rajah of Devarakottah. |
| | Kurupam, Rajah of. |
| | Lynn, V. G., Esq. |
| | Menzies, R. T., Esq. |

Miller, A. P., Esq.
 Miller, L. C., Esq., I.C.S.
 Mudukrishna Yachandra Bahadur, Rajah V.
 Nair, T. M., Esq.
 Napier, A. S., Esq.
 Narayanasawmy Chettyar, G., Esq.
 Nelson, Horace A., Esq.
 Norton, Eardley J., Esq.
 Oakes, A. W. D., Esq.
 Oakes, W. H., Esq.
 Ormerod, H., Esq.
 Orr, Sutherland, Esq.
 Parlakimidi, Rajah of.
 Pinhey, A. F., Esq., I.C.S.
 Romilly, George, Esq.
 Rosling, A. W., Esq.
 Smith, P. Bosworth, Esq.
 Smith, J. G., Esq.
 Sabapathy Iyah, C., Esq.
 Scott, E., Esq., I.C.S.
 Smith, C. Michie, Esq.
 Sim, the Hon'ble Mr. H. A., C.I.E., I.C.S.
 Sowden, Chas., Esq.

Straker, C. H., Esq.
 Stuart, H. A., Esq., I.C.S.
 Subba Naidu, A., Esq.
 Subrahmanyam, N., Esq.
 Thurston, Dr. Edgar.
 Travancore. H. H. the Maharajah of, G.C.M.G.
 Thompson, H. J., Esq.
 Turner, W. A., Esq.
 Twigg, Mrs. J.
 Venkataramdoss Naidu, Esq., Dewan of Pudukotta.
 Vincent, J. R., Esq.
 Wallis, the Hon'ble Mr. J. P.
 White, the Hon'ble Chief Justice Sir Charles Arnold, Kt.
 Whitehead, the Rt. Reverend Lord Bishop, D.D.
 Williams, the Ven'ble Archdeacon A. A.
 Weir, C. J., Esq.
 Yates, J. A., Esq.
 Zemindar of Polavaram.
 Do. Ettyapuram.
 Do. Ootakuli.

(B Class Members):

Ager, B., Esq.
 Anadia Pillay, B. C., Esq.
 Coleridge, F. A., Esq., I.C.S.
 Davy, H. F., Esq.
 Desikachariar, T., Esq.
 Giffard, Major G. G., I.M.S.
 Jones, Mrs. J. Crossly.
 Kirwan, L. E., Esq.
 Lakshmi Varahu Iyer, Esq.
 Lawson, A. E., Esq.
 Maitland, Lieut.-Col. J., I.M.S.
 Nallasawmi Pillay, Esq., J. M.
 Natasa Iyer, S., Esq.
 Parthasaradi Iyengar, S., Esq.
 Philips, M., Mrs.
 Pritchard, S. M., Esq.

Ramanujam Chetty, Tota R. V., Esq.
 Mahomed Sheriff Khan Bahadur.
 Sivasawmi Iyer, P. S., Esq.
 Sturmer, Col. A. J., I.M.S.
 Subramanyam Iyer, A., Esq.
 St. Leger, W. D., Esq.
 Savarimuthoo Pillay, Esq., T. P. I.
 Sundrasa Row, M., Esq., Scindia Saheb.
 Thompson, the Hon'ble Mr. J., C.I.E., I.C.S.
 Vaughan, R. J., Esq., I.C.S.
 VanGeyzel, Lieut.-Col. J. L. I.M.S.

| | | | | | | | | | | | |
|---|-----|----|---|---|----|-------|----|---|--------|----|----|
| Do. of Ichthemic guano .. | 101 | 8 | 0 | House, Water and Lighting Taxes.. | .. | 29 | 12 | 8 | 45 | 12 | 0 |
| Do. of Firewood .. | 52 | 6 | 0 | " Packing Materials .. | .. | 80 | 13 | 8 | | | |
| Loan of Plants .. | 287 | 10 | 3 | " Petty charges and Sundries .. | .. | 229 | 2 | 0 | | | |
| Out-door work of laying Gardens, etc. .. | 583 | 0 | 0 | " Postage, Stamps and Discount .. | .. | 704 | 1 | 7 | | | |
| Flower Show Admission Tickets, etc. .. | | | | " Printing and Stationery Books and Periodicals .. | .. | | | | 1,043 | 13 | 11 |
| Advances received for Credit of purchase account .. | | | | " Advertisement charges.. | .. | | | | 386 | 11 | 10 |
| Public Account of advances made to Gardeners .. | | | | " Interest received from Messrs. Arbuthnot & Co. and paid to Cashier .. | .. | | | | | | |
| Interest on the Security of Cashier at 5 per cent. per annum received from Messrs. Arbuthnot & Co. .. | | | | " Public Account of Advances paid to Gardeners .. | .. | | | | 37 | 8 | 0 |
| Do. from the Bankers at 2 per cent. per annum on floating account .. | | | | " Furniture and Plant Account .. | .. | | | | 37 | 13 | 0 |
| | | | | " Repairing Ferneries .. | .. | | | | 319 | 9 | 9 |
| | | | | " Audit fees .. | .. | | | | 132 | 2 | 7 |
| | | | | " Security of Cashier deposited with Messrs. Arbuthnot & Co. .. | .. | | | | 100 | 0 | 0 |
| | | | | " Do. of Seeds' Clerk deposited in the Post Office Savings Bank .. | .. | 750 | 0 | 0 | | | |
| | | | | " Balance of Petty Cash on hand on the 31st December, 1903 .. | .. | 200 | 0 | 0 | | | |
| | | | | " Do. with Messrs. Binny & Co. on the 31st December, 1903 .. | .. | 1,380 | 15 | 3 | | | |
| Total Rupees .. | | | | Total Rupees .. | .. | | | | 1,580 | 15 | 3 |
| | | | | | .. | | | | 19,555 | 13 | 6 |

AGRI-HORTICULTURAL SOCIETY.

L. E. KIRWAN,

MADRAS,

Honorary Secretary.

TEYNAMPETT, 28th January, 1904.

Audited and found correct.

THOS. CRONAN,

Auditor.

N. SUBRAHMANYAM,

Honorary Treasurer.

The Proceedings of the Agri-Horticultural Society of Madras for the 1st Quarter ending 31st March, 1904.

COMMITTEE MEETING.

At a Committee Meeting held at the Society's Library on February 2nd, 1904, the following gentlemen were present :—

| | |
|------------------------------------|-------------------------------------|
| R. T. MENZIES, Esq., <i>in the</i> | The Hon'ble Mr. CASTLE- |
| <i>Chair.</i> | STUART STUART, I.C.S., <i>Ex-</i> |
| C. A. BARBER, Esq. | <i>officio.</i> |
| N. SUBRAHMANYAM, Esq., | L. E. KIRWAN, Esq., <i>Honorary</i> |
| <i>Honorary Treasurer.</i> | <i>Secretary.</i> |

Resolutions.—The following Resolutions were passed :—

1. That the gentlemen, a list of whose names was put before the Committee, be asked to judge at the Annual Flower Show.

2. That a notice be issued as follows:—Any gentlemen who wish to exhibit are requested to send applications in writing three days previous to the Show, in order that sufficient space may be allotted them for their exhibits.

The Honorary Secretary then proposed that Rule 30 in the Society's Bye-laws should be amended, to allow members to borrow books from the Society's Library. It was decided that this matter should be brought up for further consideration at the Annual General Meeting.

Contributions.—The Honorary Secretary then intimated that the following contributions had been made to the Society during January :—

Reviewing the Report on the working of the Agricultural Farms for the half-year ending 30th September, 1903, issued by the Acting Under-Secretary to the Government of Madras.

Agricultural Statistics of the Lower Provinces of Bengal for 1902-03. Forwarded by order of the Lieut.-Governor of Bengal.

Annual Report on the Gardens of H. H. the Maharana Fateh Singhji Bahadur, G.C.S.I., of Udaipur, Merwar, for the year 1902-03.

Annual Report on the Government Gardens and Parks in Mysore for the year 1902-03 with the Government Review thereon.

Report on the operations of the Department of Agriculture, Madras Presidency, for the year 1902-03.

Agricultural Bulletin of the Straits and Federated Malay States, Vol. II, No. 12, edited by H. N. Ridley, Esq., M.A., F.L.S.

West Indian Bulletin, Vol. IV, No. 3, issued by the Commissioner, Imperial Department of Agriculture for the West Indies.

Bulletin of the Department of Agriculture, West Indies, Vol. I, No. 12. New Series, Vol. IX, Index to Bulletins 1887 to 1902. Vol. II. Edited by William Fawcett, Esq., B.Sc., F.L.S., etc.

The *Queensland Agricultural Journal*, Vol. XIV, Part I, edited by A. J. Boyd, Esq.

Bulletin of Miscellaneous Information, Appendix I, 1904, issued by the Director, Royal Botanic Gardens, Kew.

The *Gardener's Chronicle*, Vol. XXXIV, Nos. 885, 886, 887 and 888.

Exchange seed lists were received from—

The Director of the Royal Botanic Gardens, Glasnevin, Dublin.

The Director of the Botanic Gardens, Tours, France.

The Director of the Botanic Gardens and Museum, Berlin, Germany.

The Director of the Botanic Gardens, Cracow, Russia.

Catalogue of Articles exhibited at the Industrial and Arts Exhibition, Madras, by the Curator of the Government Botanic Gardens and Parks, Nilgiris.

The *Tropical Agriculturist*, Vol. XXIII, No. 7, edited by Messrs. A. M. & J. Ferguson, Colombo.

Bulletin No. 6 of the Lloyd Library of Botany, Pharmacy and Materia Medica, edited by J. W. & C. G. Lloyd, Cincinnati, Ohio.

Bulletin of the Botanic Gardens, Brussels, Vol. I, No. 4, edited by P. Weissenbruch, Esq.

Acta Horti Petropolitani, Vol. XXII, No. I and Vol. XXI, No. 3, issued by the Director of the Imperial Botanic Gardens, St. Petersburg.

The *Indian Forester*, Vol. XXX, No. 1, edited by E. P. Stebbing, Esq., F.L.S.

Government of Madras, G.O. No. 1333. Subject:—Industrial Schools to be devoted to the Study of Agriculture.

Department of Land Records and Agriculture, Vol. II, Bulletin No. 48. Note on the Experimental Sugarcane Station at Samalkot, Godavari District, by C. A. Barber, Esq., M.A., F.L.S.

Contributions to the New Guinea Flora, by F. Manson Bailey, Esq., F.L.S.

Curtis's Botanical Magazine, Vol. LX, No. 709, edited by Sir Joseph Dalton Hooker, M.D., etc.

Missouri Botanical Gardens, U.S.A., Fourteenth Annual Report.

Plants and Seeds issued.—The following plants and seeds were issued during the month of January:—

To W. E. Glenie, Esq., Coote Covil Estate, Vayitri, S. Wynaad.

50 *Canna* rhizomes.

To G. H. Krumbeigal, Esq., Superintendent, State Gardens, Baroda; the Superintendent, State Gardens, Gwalior; J. Cameron, Esq., Superintendent, Botanic Gardens, Bangalore; H. S. Ferguson, Esq., F.L.S., Director, Botanic Gardens, Trivandrum; R. L. Proudlock, Curator, Government Botanic Gardens, Ootacamund; Sir William T. Thistleton Dyer, Director, Royal Gardens, Kew; Mons. H. Prudhomme, Director of Agriculture, Madagascar; F. W. Moore, Esq., Director, Royal Botanic Gardens, Glasnevin, Dublin; W. Burbidge, Esq., Curator, Trinity College, Dublin; Prof. Balfour, Regius-Keeper, Botanic Gardens, Edinburgh; the Director, Imperial Botanic Gardens, St. Petersburg, Russia; and to the Director of Agriculture, Saigon, Cochin-China.

1 Packet of seeds of *Phoenix rupicola*.

1 „ „ *Livistona Jenkinsii*.

1 „ „ *Pinus longifolia*.

To J. H. F. Day, Esq., Nellimundi Estate, Meppadi, South Wynaad.

40 *Canna* rhizomes.

New Members.—The following gentlemen were elected ordinary members of the Society:—

B. Class, T. P. S. SAVARIMOOTHOO PILLAY and J. JOSSELYN, Esq.

Contributions.—The following contributions were received during the month of February:—

Records of the Botanical Survey of India, Vol. II, No. 6.

A sketch of the Flora of British India, by Sir Joseph Dalton Hooker, M.D., etc.

The *Tropical Agriculturist*, Vol. XXIII, No. 8, edited by Messrs. A. M. & J. Ferguson.

Bulletin No. 28—Barbados and Porto Rico Molasses, 2 copies, issued by the Commissioner of the Imperial Department of Agriculture for the West Indies.

The *Queensland Agricultural Journal*, Vol. XIV, Part 2, edited by A. J. Boyd, Esq.

Curtis's Botanical Magazine, Vol. LX, No. 710, edited by Sir Joseph Dalton Hooker, M.D., etc.

Price list of trees, plants, etc., for sale in the Public Gardens, Trivandrum.

Bulletin of the Department of Agriculture, Vol. II, Part I, edited by William Fawcett, Esq., B.Sc. F.L.S., etc., Jamaica.

Agricultural News, Vol. III. Nos. 39, 40, 41 and 42, issued by the Imperial Department of Agriculture for the West Indies.

List of Articles from the Government Botanic Gardens and Parks, Nilgiris, exhibited at the Industrial and Arts Exhibition, Madras, December 1903 and January 1904.

The *Gardener's Chronicle*, Vol. XXXIV, Nos. 889, 890, 891 and 892, purchased.

Planting Opinion, Vol. VIII, No. 52; Vol. IX, Nos. 1, 2, 3.

The *Indian Forester*, Vol. XXX, No. 2, edited by E. P. Stebbing, Esq.

Plants and seeds received.—The following plants and seeds were presented to the Society during February :—

By A. F. Pinhey, Esq., I.C.S

6 bundles of ribbon bark, from a wild plant found in the Tamara-cheri Pass.

By the Secretary, Agri-Horticultural Society of India, Calcutta.

1 Packet of seed of *Pinus longifolia*.

By Mrs. E. M. Middleton, Hassan District, Mysore.

One basket of Orchids.

By C. A. Barber, Esq., Teynampett, Madras.

1 Packet of seeds of *Coreopsis* from Samalkot.

By J. Cameron, Esq., Superintendent, Lal Bagh, Bangalore.

3 Pine-apples, Green Ripley.

3 „ Red „

3 „ Smooth Cayenne.

R. L. Proudlock, Esq., Curator, Government Botanic Gardens, Ootacamund.

2 Plants of *Thuja orientalis*.

Plants issued.—To the Superintendent, Agricultural Demonstration Farm, Trivandrum.

12 Plants of *Agave rigida* var. *Sisalana*.

To Miss Perkins, Methodist Publishing House, Madras.

5 Crotons.

6 Cannas.

New Members.—The following gentlemen were proposed and elected ordinary members of the Society :—

A. Class.—C. Ramanujam Chetty, Esq. ; The Hon'ble Mr. A. E. Castle Stuart Stuart, I.C.S. ; Mrs. C. S. Deane and F. S. Clarke, Esq.

B. Class.—William A. Paul, Esq. and J. Junghenn, Esq.

The Annual Flower Show.

The 65th Annual Flower Show was held on the 27th February in the Society's Nursery Gardens at 7 A.M. The arrangements were much the same as in previous years. Shortly after 7-30 A.M., Their Excellencies Lord and Lady Amphill arrived, accompanied by Captain Hartley, A.-D.-C., and a party from Government House. Their Excellencies were met at the entrance by Mr. L. E. Kirwan, Honorary Secretary, who conducted them round and pointed out the most interesting exhibits. On the whole, the Show may be considered to have been quite up to the average of previous years, and in many classes it surpassed its predecessors. The absence of the large trophies from the People's and Robinson Parks was noticeable, but several enterprising horticulturists sent in exhibits which, if less pretentious, were very compact and well selected. The effect of the latter, too, was a great improvement on that of the big groups, as they allowed more room and light. The collections of annuals were a better display than has been seen in Madras for many years, being better arranged and more compact than usual, and the plants themselves were in some cases exceedingly well grown. The mixed collection of Mr. N. Subrahmanyam was especially good, and that of the Hon'ble Mr. Stokes was not far behind. Those well known horticulturists, Messrs. Houghton and Sowden, showed some very effective novelties, the lobelia, daisies and zinnias of the one, and the scabious and calendulas of the other being especially admirable. Mr. Sowden also showed some very fine new begonias, the handsome variety known as " Fire King " attracting especial attention. Both the collections exhibited in this class were specially remarkable. Mr. Houghton also sent a collection of new and rare perennials, which among others contained the following :—A Fern Bird obtained from Messrs. Saits in Yokohama, Japan ; *Saintpaulia Ionantha* var. *albescens*, a charming gesneraceous plant from German East Africa ; *Martenezia erosa* ; *Chamardorea* Sp. ; and *Astrocaryum Mexicanum*. *Sprekelia Formosissima* was shown as being unusually early in flower.

Of the other flowers the carnations and chrysanthemums were not awarded a prize. The Judges in these classes were perhaps a little too severe in their criticism, and were apparently comparing the efforts of Madras gardeners with the more easily obtained, if more beautiful, results to be seen in the gardens on the Hills. Mr. Sowden's asters were, for Madras, an especially good show and

deserved high commendation. The collections of pinks and dianthus were very good ; and those of portulaccas perhaps the most noticeable features of the Show. The roses were not considered good ; indeed the Judges, who here again seemed ignorant of the difficulties to be met with in gardening in Madras, said that the individual plants showed want of attention, and withheld the first prize. The perennials, on the whole, were very good, though the cannas, hibiscus, dahlias and chrysanthemums were not good. The prize for the best collection of foliage plants was awarded to Mr. Subrahmanyam, and that for the best collection of ferns to Mr. Norton who, with his usual enterprise, made a grand display in this section. Mr. Houghton again sent his fine collection of palms and cycads which is increased by many valuable additions year by year. Some of the specimens sent are as curious as they are rare. The two collections of caladiums sent were a great improvement on anything that has been seen before in Madras in this class. Those of Mr. Houghton gained the first prize, containing more and rarer varieties than those of his rival, Mr. Ramanjam Chetty, whose plants, however, were on the whole better grown. Mr. Houghton also made a grand display of dracænas, for which he was awarded a silver medal, and his aralias and panax deserve special mention. Mr. Menzies' crotons made a very effective display and though no others entered into competition with them, they were awarded the silver medal. The new variety "Challenger" in the centre of the collection was very much admired.

The exhibits in the cut flower class were poor and showed lack of enterprise, and the bouquets were not as good as usual. The vegetables shown were not as numerous as in previous years, but some of the collections were excellent, those of the Coimbatore, Salem and Vellore Jails attracting especial attention. Some giant yams were remarkable, as also were some novelties in tomatoes. A very good collection of Indian vegetables, sent by St. Patrick's Orphanage, deservedly gained a prize. There were fewer exhibits of fruit this year, but those sent were good. A fine collection of 17 varieties of plantains was interesting. The fruits from Bangalore were up to the average, but there were no novelties. The collections of economics shown, with the exception of the large collection of new sugarcanes from the Samalkot Experimental Farm, sent by Mr. C. A. Barber, the Government Botanist, (conspicuous among which was the Red Mauritius variety) were not as good as usual. Among the other sugarcanes there were only four varieties which complied with the conditions. The fibres shown were old and not well cleaned. The collections of forage were much the same as usual. To the tobacco shown no prize was awarded, the Judges considering "that no good purpose would be served thereby." Both the special prizes awarded for the best exhibits of plants grown with ichthemic guano were awarded to Mr. Houghton, the first prize for his fine collection of double portulaccas, and the second for his effective and novel double daisies.

H. E. the Governor's Band was in attendance, and played an excellent selection of music, and the Show, which was very well attended, was pronounced a decided success.

The following are the details :—

Class I.—Flowers in Pots, exclusive of Annuals.

*Judges :—*Nos. 1 to 5. Major W. Molesworth, I.M.S.; Major G. G. Giffard, I.M.S. Nos. 6 to 11. The Ven'ble Archdeacon A. A. Williams and Lieut.-Colonel R. F. R. Formby.

1. Roses. First prize, Silver Medal.—Not awarded.

Second prize, Bronze Medal. —H. E. the Governor.

Third prize, a Certificate. — Major Donovan, I M S.

2. General Collection of Perennials. Prize, a Bronze Medal or Rs. 5 and a Certificate.—Dewan Bahadur N. Subrahmanyam.

Second prize, a Certificate.—Not awarded.

3. Verbenas. Prize, a Bronze Medal or Rs. 5 and a Certificate.—Dewan Bahadur N. Subrahmanyam.

4. Pinks and Dianthus. single and double varieties. First prize, a Bronze Medal —Mr. A. Robertson.

Second prize, a Certificate.—Not awarded.

5. Carnations. Picotees. First prize, a Bronze Medal.—Not awarded.

Second prize, a Certificate.—Mr. C. Sowden.

6. Collection of Climbers (Perennial). Not more than 30 pots. Prize, a Bronze Medal or Rs. 5 and a Certificate.—No exhibits.

7. Cannas. First prize, a Bronze Medal.—Mr. E. Norton.

Second, Rs. 5 and a Certificate. — Not awarded.

8. Collection of Begonias. Prize, a Bronze Medal or Rs. 5 and a Certificate.—Mr. C. Sowden.

9. Chrysanthemums. Prize, a Bronze Medal or Rs. 5 and a Certificate.—Not awarded.

10. Dahlias. First Prize, a Bronze Medal.—Not awarded.

Second, Rs. 5 and a Certificate.—Mr. C. Sowden.

11. Hibiscus. Prize, a Bronze Medal or Rs. 5 and a Certificate.—Not awarded.

Extra prize for any new flowers in this class not raised or exhibited before.—Mr. C. Sowden. for new Begonias.

Judges' Remarks.—Nos. 1 to 5.—Roses Only two exhibitors. Individual plants showed want of attention. Second and third prizes only awarded. The one exhibit of perennials was very good. Verbenas poor, only one exhibitor, no prize awarded. Pinks and Dianthus, two exhibitors; one exhibit very good on the whole; one prize awarded. Carnations poor, no prize awarded.

Nos. 6 to 11.—Cannas anything but a good show, individual blossoms being very poor and nothing new. Hibiscus, a very poor show, not worthy of a prize. Chrysanthemums, far below the average. Not considered worthy of mention. Dahlias, a fair collection of varieties and a few good blossoms. Begonias only two exhibits, but quite good. In the special group for new species the

“Fire King,” a tall well grown plant with brilliant red blossoms, was worthy of special commendation.

CLASS II.—*Annuals grown in Pots.*

Judges:—The Hon’ble Mr. Justice Benson and Mr. A. J. Yorke.

1. Collection of Annuals in pots. First prize, Rs. 10 and a Certificate.—Dewan Bahadur N. Subrahmanyam.

Second, Rs. 5 and a Certificate.—The Hon’ble Mr. G. Stokes.

2. Double Balsams. Rs. 5 and a Certificate.—Dewan Bahadur N. Subrahmanyam.

3. Portulacæas. Rs. 5 and a Certificate.—H. E. the Governor.

4. Asters. Rs. 5 and a Certificate.—Mr. C. Sowden.

5. Phloxes. Rs. 5 and a Certificate.—Mr. C. Sowden.

6. Climbers. Rs. 5 and a Certificate.—Mr. C. Sowden.

7. Petunias. Rs. 5 and a Certificate.—Mr. P. Grant.

8. Double Zinnias. Rs. 5 and a Certificate.—Mr. H. E. Houghton.

Special prizes for the best plants grown with ichthemic guano.

1st Silver Medal.—Mr. H. E. Houghton.

2nd Bronze Medal.—Mr. H. E. Houghton.

Extra prize for any new flowers in this class not raised or exhibited before.—Mr. H. E. Houghton.

Judges’ Remarks.—1. A very good show. 2. All the exhibits were very good and we had some difficulty in making a selection. 3. Both exhibits were good. We selected for the prize the exhibit which had the best-grown plants, though the exhibit by Mr. Houghton had more varieties. 4. A very well-grown lot for Madras. 5. Both collections were good. 6. A rather poor collection. 7. We have given the prize to the collection with the best grown plants, though there were some good and rare varieties among those exhibited by Mr. P. Subbarayan, Minor Zemindar of Kumaranayakanur. 8. A large attractive exhibit of new pygmy Zinnias.

Special prize.—For this prize there were a number of interesting exhibits. We have given prizes to Mr. H. E. Houghton for his new Double Zinnias and his new Lobelias and to Mr. C. Sowden for a handsome new variety of Double Petunia. Other exhibits of interest were Scabiosa, Calendula and Salvia by Mr. C. Sowden, and Cosmea Klondyke without any label, but said to be exhibited by Mr. C. A. Barber.

CLASS III.—*Cut Flowers.*

Judges:—Mrs. R. S. Benson and Mrs. J. Twigg.

1. Best Bouquet, Rs. 5.—Mrs. Donovan.

2. Best 6 Button-holes, Rs. 3.—Mrs. A. Robertson.

3. Hollyhocks, Rs. 3.—Mr. E. Norton.

4. Dahlias, Rs. 3.—Mr. S. B. Murray.

5. Sunflowers, Rs. 3.—Narayanasawmi.
6. Chrysanthemums, not less than 18 varieties, Rs. 3.—Not awarded.
7. Cut Roses, not less than 18 varieties, Rs. 5.—Not awarded.
8. Asters, not less than 12 varieties, Rs. 5.—Not awarded.
9. Best collection of cut flowers, from shrubs grown in Madras, Rs. 5.—H. E. The Governor.
10. Basket of cut flowers, Rs. 5.—Mrs. A. Robertson.
11. Table decoration, Rs. 5.—No exhibits.

Judges' Remarks.—The Judges consider that the exhibits of cut Chrysanthemums, Roses and Asters were poor and have awarded no prizes. There was no competition in many of the divisions, which shows a regrettable lack of enterprise. The Sunflowers were good. No table decorations.

CLASS IV.—*Ferns and Foliage Plants.*

Judges:—Nos. 1 to 6. The Hon'ble Mr. M. Hammick, C.I.E.; Mr. C. Sowden. Nos. 7 to 13. The Hon'ble Mr. H. A. Sim and Mr. V. G. Lynn.

1. Trophy of Ferns and allied plants. First prize, a Silver Medal.—Mr. E. Norton.

Second prize, a Bronze Medal or Rs. 5 and a Certificate.—Not awarded.

2. Collection of well-grown Ferns, not more than one pot of each species to be exhibited. First prize, a Bronze Medal or Rs. 5.—Dewan Bahadur N. Subrahmanyam.

Second prize, a Certificate.—

3. Trophy of Foliage Plants. First prize, a Silver Medal.—Dewan Bahadur N. Subrahmanyam.

Second prize, a Bronze Medal or Rs. 5 and a Certificate.—C. Ramanjūm Chetty.

4. Caladiums. First prize, a Bronze Medal or Rs. 5.—H. E. Houghton.

Second prize, a Certificate.—C. Ramanjūm Chetty.

5. Alocasias. First prize, a Bronze Medal or Rs. 5.—Mr. R. T. Menzies.

Second prize, a Certificate.—Not awarded.

6. Palms and Cycads. First prize, a Silver Medal.—Mr. H. E. Houghton.

Second prize, a Bronze Medal.—Not awarded.

7. Crotons. First prize, a Silver Medal.—Mr. R. T. Menzies.

Second prize, a Bronze Medal or Rs. 5.—*Nil*.

Third prize, a Certificate.—*Nil*.

8. Dracænas. First prize, a Bronze Medal or Rs. 5.—Mr. H. E. Houghton.

Second prize, a Certificate.—*Nil*.

9. Aralias and Panax. First prize, a Bronze Medal or Rs. 5.—Mr. H. E. Houghton.

Second prize, a Certificate.—*Nil*.

10. Lycopodium and Selaginella. First prize, a Bronze Medal or Rs. 5.—Mr. C. Sowden.

Second prize, a Certificate.—*Nil*.

11. Anthuriums. First prize, a Bronze Medal or Rs. 5.—Mr. E. Norton.

Second prize, a Certificate.—Mr. H. E. Houghton.

12. Coleus. First prize, a Bronze Medal or Rs. 5.—L. E. Kirwan.

Second prize, a Certificate.—Mr. W. A. Turner.

13. Silver Medal for the best collection of New Plants.—Mr. H. E. Houghton.

Bronze Medal for second best collection of New Plants.—*Nil*.

A Certificate for third best collection of New Plants.—*Nil*.

Judges' Remarks.—1. Number of exhibits in all the classes was small. The trophy of Ferns was less pretentious than usual, but was an excellent collection. A similar remark applies to the foliage plants. The Caladiums were an excellent show. The exhibit that gained the Medal contained a large number of rare plants. The collection that gained the second prize was perhaps better grown than the first, more particularly the common sorts. The collection of Palms and Cycads was an excellent one, containing very many rare kinds. 7. A good exhibit with several well coloured varieties. It is a pity that there were not more exhibitors in a class which is so special to Madras. 8. A fair collection. 9. Above the average. 11. Two very good exhibits, the first prize going to the better grown collection. 12. The same remarks apply as to Anthuriums. 13. An interesting collection.

CLASS V.—Vegetables (grown in Madras). Not open to Government and Public Institutions.

Judges:—Nos. 1 to 10. Mr. J. Adam and Mr. H. E. Houghton. Nos. 11 to 21. Mr. G. Narayanasawmy Chetty and Mr. Ramanjum Chetty.

1. Celery, Rs. 3.—Rungiah Doss.
2. Beetroot, Rs. 3.—St. Patrick's Orphanage.
3. Turnip, Rs. 3.—Messrs. Spencer & Co.
4. Carrots, Rs. 3.—Messrs. Spencer & Co.
5. Onions, Rs. 3.—Not awarded.
6. Cucumbers, Rs. 3.—Messrs. Spencer & Co.
7. Vegetable Marrows, Rs. 3.—St. Patrick's Orphanage.
8. Cabbages, Rs. 3.—Mr. E. A. S. Nicholas.
9. Tomatoes, Red, Rs. 3.—Nawab Mahomed Abdul Kadir.
10. Tomatoes, Yellow, Rs. 3.—Nawab Mahomed Abdul Kadir.
11. Asparagus, Rs. 3.—*Nil*.

12. Peas, Rs. 3.—Mr. F. B. Livery.
13. Brussels Sprouts, Rs. 3.—*Nil*.
14. French Beans, Rs. 3.—Mr. F. B. Livery.
15. Kidney Beans, Rs. 3.—Rungiah Doss.
16. Lettuces, Rs. 3.—Rungiah Doss.
17. Knol-Khol, Rs. 3.—Mr. E. A. S. Nicholas.
18. Jerusalem Artichokes, Rs. 3.—Messrs. Spencer & Co.
19. Radishes, Rs. 3.—Mr. E. A. S. Nicholas.
20. Chillies and Capsicums, grown in pots, Rs. 3.—None.
21. Sweet Herbs, grown in pots, Rs. 3.—None.

Extra prize for any new vegetable in this class not exhibited before.—None.

Judges' Remarks.—1 to 10 collection fair. Onions too poor to deserve prize. Vegetable Marrows and Tomatoes very good indeed. 11 to 21 as usual. The vegetables grown in Madras quite as good as those that were exhibited last year.

CLASS VI.—*Vegetables (grown anywhere). Not open to Government and Public Institutions.*

Judges:—Nos. 1 to 12. Mr. H. A. Nelson and Mr. W. H. Oakes.
Nos. 13 to 23. Mr. W. D. St. Leger and Mr. H. E. Houghton.

1. Celery, Rs. 3.—N. Parthasarathy Naidu.
2. Knol-Khol, Rs. 3.—N. Parthasarathy Naidu.
3. Beetroot, Rs. 3.—Venkatachellam Pillay.
4. Carrots, Rs. 3.—N. Parthasarathy Naidu.
5. Turnips, Rs. 3.—Sunjeevi Naidu.
6. Onions, Rs. 3.—Govindarajulu Naidu.
7. Cabbages, Rs. 3.—N. Parthasarathy Naidu.
8. Vegetable Marrows, Rs. 3.—Govindarajulu Naidu.
9. Cucumbers, Rs. 3.—Not awarded.
10. French Beans, Rs. 3.—Venkatachellam Pillay.
11. Kidney Beans, Rs. 3.—Divided between Valayuda Pillay and Balavandra Pillay.
12. Tomatoes, Red, Rs. 3.—B. Krishnasawmy Naidu.
13. Tomatoes, Yellow, Rs. 3.—None.
14. Chillies, Rs. 3.—St. Patrick's Orphanage.
15. Brinjals, Rs. 3.—N. Parthasarathy Naidu.
16. Bandikai, Rs. 3.—N. Parthasarathy Naidu.
17. Potatoes, large, Rs. 3.—Sunjeevi Naidu.
18. Potatoes, small, Rs. 3.—N. Parthasarathy Naidu.
19. Peas, Rs. 3.—V. Balavandra Pillay.
20. Collection of Salad Plants, Rs. 3.—Bankarammall.

21. Lettuces, Rs. 3.—Venkatachellam Pillay.

22. Cauliflowers, Rs. 3.—Mathurammal.

23. Collection of Edible Roots, Rs. 3.—S. M. Habibullah.

Extra prize for any new vegetable in this class not exhibited before.—*Nil*.

Judges' Remarks.—Nos. 1 to 12. The exhibits as a whole very good, particularly Cabbages and Tomatoes. Cucumbers very fair; no prize awarded. Only two exhibits of Kidney Beans. Prize may be divided. Nos. 13 to 23. Exhibits quite up to those of last year. Potatoes and Cauliflowers specially good.

CLASS VII.—*Fruits.*

Judges :—Nos. 1 to 9. Lieutenant-Colonel J. Maitland and Dewan Bahadur N. Subrahmanyam. Nos. 10 to 17. Mr. J. Josselyn.

1. Raspberries, Rs. 3.—Moonoosawmy.

2. Strawberries, Rs. 5.—Moonoosawmy.

3. Peaches, Rs. 5.—Not awarded.

4. Apples, Rs. 5.—Chidambara Naick.

5. Pears, Rs. 5.—No exhibits.

6. Sweet Oranges, Rs. 3.—Chidambara Naick.

7. Pumplemoses, Rs. 2.—Abbu Chetty.

8. Figs, Rs. 5.—No exhibits.

9. Grapes, Rs. 5.—Not awarded.

10. Sapodillas, Rs. 3.—Abbu Chetty.

11. Melons, Rs. 3.—No exhibits.

12. Collection of different varieties of plantains, Rs. 3.—Y. Manickam (17 varieties).

13. Lemons, Rs. 5.—Chidambara Moodelly.

14. Limes, Rs. 3.—Y. Manickam.

15. Guavas, Rs. 3.—Moonoosawmy.

16. Citrons, Rs. 3.—Muni Yellappa.

17. Green Cocoanuts (different varieties), Rs. 5.—Santhu Pillay.

Extra prize for any new fruit in this class not exhibited before.—Not awarded.

Judges' Remarks.—Nos. 1 to 9. Arrangement of exhibits and placing of tickets confusing, making it difficult to learn exhibitor's name. Exhibits on the whole rather poor. Nos 10 to 17. Collection on the whole well up to average years, exhibits in one or two classes being exceptionally good. Nothing new was shown. The special prize for this class was, therefore, not awarded.

Plantains:—The winner of this class shows a good selection of 17 varieties.

Lemons:—Quite a good collection.

Limes:—A very difficult class to judge; the lots shown being very even.

Guavas:—Another exhibit by the winning exhibitor was very good.

Green Cocoanuts:—A poor show as a class, but the winner had a good variety.

CLASS VIII.—*Flowers and Vegetables (grown in Madras). Open only to Soldiers, Non-Commissioned and Warrant Officers, and the Police.*

Judges :—Mr. R. Ll. Jones and Mr. C. Benson.

1. Best collection of Flowers in pots, Rs. 10.—No exhibits.
Second best collection of Flowers in pots, Rs. 5.—No exhibits.
2. Best collection of Vegetables, Rs. 10.—No exhibits.
Second best collection of Vegetables, Rs. 5.—No exhibits.

Extra prize for any new flower in this class not raised or exhibited before.—No exhibits.

CLASS IX.—*Vegetables (grown anywhere). Open to Government Public Institutions.*

Judges :—Mr. R. Ll. Jones and Mr. C. Benson.

1. Best collection of English Vegetables. First prize, a Bronze Medal or Rs. 5 and a Certificate.—Coimbatore Jail.
Second prize, a Certificate.—Coimbatore Jail.
2. Best collection of Indian Vegetables. First prize, a Bronze Medal or Rs. 5 and a Certificate.—St. Patrick's Orphanage.
Second prize, a Certificate—Vellore Jail.

CLASS X.—EXTRA PRIZE LIST.

The following prizes were open to the produce of the Madras Presidency, Hyderabad, Mysore, Coorg, Travancore and Cochin.

Judges :—Mr. C. Benson and Mr. C. A. Barber.

1. Collection of cleaned fibres, not less than 5 lbs. weight of each, with plants either growing or as botanical specimens. The fibres must have been recently cleaned. Prize, a Silver Medal.—Not awarded.
2. *a.* Best Sample of Aloe fibre, not less than 5 lbs. Prize, a Bronze Medal.—*Nil*.
b. Best collection of plantain fibres, from varieties of plantains to be specified, 5 lbs. of each variety. Prize, a Bronze Medal.—*Nil*.
3. Collection of Forage.—
a. Fine, suitable for horses, etc., not less than 10 lbs. of each variety, Rs. 10.—Not awarded.
b. Coarse, suitable for buffaloes, etc., not less than 10 lbs. of each variety, Rs. 5.—H. E. the Governor.
4. Collection of Aromatic plants growing in pots. Prize, a Bronze Medal.—H. E. the Governor.
5. Sugarcane, best samples of cane, each sample to contain not less than 6 canes. Prize, a Silver Medal.—Mr. P. R. Sundara Iyer.

6. A collection of Sorghums in ear, not less than 5 ears of each variety, Rs. 10.—None.

7. Vegetable Dyes used in dyeing locally, and cloths dyed therewith. Prize, a Silver Medal or Rs. 5.—Murugasa Naicker.

8. A collection of Castors, not less than 5 spikes, and 2 lbs. of cleaned seeds of each variety, Rs. 5.—Murugasa Naicker.

9. Madras-made Garden Implements. Not to contain duplicates, Rs. 5.—No exhibits.

10. Garden Pots, Pans, etc., of plain and fancy varieties of local manufacture. Not to contain duplicates. Prize, a Bronze Medal or Rs. 5 and a Certificate.—Sundara Wudayar.

11. Silver or Bronze Medals will be awarded for any exhibits of special economic value, *e.g.*, rubbers; tobacco leaf grown locally, fit for wrappers; tanning materials, etc., etc.—Not awarded.

Judges' Remarks.—Cleaned fibres:—Commended, but exhibits did not comply with the conditions and many were not well cleaned. Fine forage for horses:—One exhibit very poor. Coarse forage for buffaloes:—A moderate exhibit. Samples should have been labelled. Aromatic plants—An interesting exhibit. Sugarcane—Small class only including few varieties which complied with the conditions. Samalkote sugarcanes not for competition. Vegetable dyes.—One moderate exhibit specimen insufficiently labelled—Castors —Exhibit failed to comply with conditions, but a fairly good collection. Garden Pots:—Poor class. Exhibits of economic value:—Judges do not consider any good purpose is gained by awarding a prize to the exhibit of tobacco by Messrs. Robinson & Co., Trichinopoly, which was commended.

COMMITTEE MEETING.

At a Committee Meeting held in the Society's Library on Tuesday, 29th March, the following gentlemen were present:—

The Hon'ble Mr. Justice H. T. BODDAM, *Chairman*.
 The Hon'ble Mr. H. BRADLEY, I.C.S.
 Lieut.-Col. R. F. R. FORMBY, I.A.
 N. SUBRAHMANYAM, Esq., *Honorary Treasurer*.
 H. E. HOUGHTON, Esq.
 CHAS. SOWDEN, Esq.,
 G. NARAYANASAWMY CHETTY, Esq.
 V. G. LYNN, Esq.
 R. T. MENZIES, Esq.
 L. E. KIRWAN, Esq., *Honorary Secretary*.

A letter from the Ven'ble Archdeacon A. A. Williams resigning his seat on the Committee was read and recorded with regret.

The following Sub-Committee was formed to consider estimates for new buildings and repairs to the Superintendent's

Bungalow:—Messrs. N. Subrahmanyam, H. E. Houghton and L. E. Kirwan.

Resolutions.—The following Resolutions were passed:—

That the Cashier and the Maistrie be informed that their present salaries are the maximum pay allowed by the Society for their posts.

Contributions.—The Honorary Secretary then intimated that the following contributions had been made during the month under review:—

Annual Report of the Queensland Acclimatization Society for the year 1902-03.

Fourteenth Annual Report of the Missouri Botanic Gardens, U. S. America.

Experimental Station Record, Vol. XIV, No. 6, issued by A. C. True, Esq., Director of Agriculture, U. S. A.

The *Agricultural Ledger*, No. 12, 1903, edited by Sir George Watt, Calcutta.

Records of the Botanical Survey of India, title page, contents and index to Vol. II, No. 6.

Contributions to the New Guinea Flora, by F. Monson Bailey, F.L.S., Colonial Botanist.

The *Agricultural News*, Vol. III, Nos. 43 and 44, issued by the Commissioner of the Imperial Department of Agriculture, West Indies.

The *Indian Forester*, Vol. XXX, No. 3, edited by E. P. Stebbing, Esq., F.L.S.

The *Tropical Agriculturist*, Vol. XXIII, No. 9, edited by Messrs. A. M. & J. Ferguson.

Planting Opinion, Vol. IX, Nos. 4, 5, 6, 7.

Curtis's Botanical Magazine, Vol. LX, No. 1405, by Sir Joseph Dalton Hooker, M.D., etc.

The *Queensland Agricultural Journal*, Vol. XIV, No. 3, edited by A. J. Boyd, Esq.

Bulletin of the Department of Agriculture, Vol. II, part 2, edited by William Fawcett, Esq., F.L.S.

Annual Report on the Department of Public Gardens and Plantations and Board of Agriculture, Jamaica, for the year ending 31st March, 1903.

The *Gardener's Chronicle*, Vol. XXV, Nos. 893, 894, 895 and 896.

The following catalogues have been received :—

George Norton & Co.'s Museum specimen jars.

Sutton & Co.'s Special Catalogue for Colonial and Foreign customers.

Vilmoren-Andrieux et Cie. Garden Seeds.

Lorenzy's Guide for Amateur Gardeners.

Veitch & Sons' Japanese Trees and Shrubs.

H. Cannell & Sons' Complete list of Chrysanthemums.

Ant. Roozen & Sons' Bulbs, Vegetable and Flower seeds.

Freiderick Adolph Haage, Jun. Seeds.

Carter's, List of Tested Seeds for 1904.

Ch. Molin. Graines et Plantes.

Barr's Seed Guide for 1904.

Aregon Nursery Company, Ltd., Fruit trees.

Maynard's Plum Catalogue.

Plants and seeds received.—The following seeds were presented to the gardens during March :—

By C. A. Barber, Esq., Madras.

1 Packet of seeds of *Cosmea Klondyke*.

By W. N. Sands, Curator, Botanic Gardens, Antigua, West Indies.

1 Bag of seeds of *Aconthoriza aculeata*.

By G. H. Cave, Esq., Acting Curator, Government Botanic Gardens, Ootacamund.

1 Packet of seeds of *Cyphomandra betaceæ*.

By Mrs. Wilson, San Thomé.

1 Canna.

By Superintendent, Guindy Park.

100 Seeds of Bread fruit.

1 Packet of seeds of *Kentia Wendlandi*.

1 „ „ *Cananga odorata*.

1 „ „ *Filicium decipiens*.

Plants and seeds issued.—The following plants and seeds were sent out during the month :—

To F. Cave Thomas, Esq., Foochow, China.

A collection of 51 Bulbs in 21 kinds.

To Mrs. Wilson, San Thomé.

27 Plants, a miscellaneous collection.

New Members.—The following gentlemen were elected ordinary members of the Society :—

A. Class. A. J. Yorke, Esq., The Rajah of Punganur, J. H. F. Day, Esq., and R. G. Hardaker, Esq.

L. E. KIRWAN,

Honorary Secretary.

Financial Statement, January to March, 1904.

103

| PARTICULARS OF RECEIPTS. | | | Amount. | | Total. | | PARTICULARS OF DISBURSEMENTS. | | Amount. | | Total. | |
|---|-------|-------|---------|-------|--------|-------|--|-----|---------|-------|--------|-------|
| | RS. | A. P. | RS. | A. P. | RS. | A. P. | | | RS. | A. P. | RS. | A. P. |
| | | | | | | | | | | | | |
| By Balance with Messrs. Binny & Co. on the 31st December, 1903.. | 1,380 | 15 3 | | | | | To Establishment—Superintendent's Salary .. | 675 | 0 0 | | | |
| Do. of Petty Cash on hand on the 31st December, 1903 .. | 200 | 0 0 | | | | | Do. Office and Garden.. | 515 | 5 9 | | 1,190 | 5 9 |
| Security of Cashier deposited with Messrs. Arbuthnot & Co. .. | | | | | 1,580 | 15 3 | Garden Permanent Coolies .. | 168 | 5 2 | | | |
| Do. of late Seeds' Clerk with interest from Post Office Savings Bank .. | | | | | 750 | 0 0 | Do. Temporary do. .. | 64 | 1 6 | | 232 | 6 8 |
| Subscription from Members of A Class .. | | | | | 207 | 11 9 | Commission to the Superintendent for the 4th quarter 1903 .. | | | | 69 | 13 2 |
| Subscription from Members of B Class .. | 567 | 0 0 | | | | | Seeds, Plants, Flowers, Fruit Trees, etc. .. | | | | 392 | 11 7 |
| Government Grant for the month of December, 1903 .. | 126 | 0 0 | | | | | Charges Recoverable Account .. | | | | 204 | 2 11 |
| Government Grant for the month of January, 1904 .. | | | | | | | Garden requisites including pots, etc. .. | | | | 129 | 5 3 |
| Government Grant for the month of February, 1904 .. | 250 | 0 0 | | | 693 | 0 0 | Out-door work of laying Gardens, etc. .. | | | | 434 | 4 3 |
| Government Grant for the Flower Show of 1904 .. | 250 | 0 0 | | | | | Red Hills Water-supply .. | | | | 131 | 9 0 |
| Sales of Seeds, Plants, Flowers, Fruit Trees, etc. .. | 500 | 0 0 | | | | | Flower Show Account .. | | | | 753 | 15 8 |
| | | | | | 1,250 | 0 0 | Discount on Mofussil cheques .. | 0 | 12 0 | | | |
| | | | | | | | Petty charges including cart hire, etc. .. | 15 | 8 0 | | | |
| | | | | | | | Sundries including oil, etc. .. | 2 | 13 7 | | | |
| | | | | | | | Packing Materials including baskets, etc. .. | 11 | 3 6 | | 30 | 5 1 |
| | | | | | 1,250 | 15 8 | Furniture and Plant Account .. | | | | 105 | 15 3 |
| | | | | | | | Books and Periodicals Account .. | | | | 31 | 6 0 |

| | | | | | | | | | |
|--|-------|----|---|--|-------|----|-------|----|----|
| " Sales of Ichthemic guano .. | 13 | 0 | 0 | Printing and Stationery Account .. | .. | .. | 82 | 15 | 0 |
| " Loan of Plants .. | 309 | 14 | 6 | " Repairing and thatching ferneries.. | .. | .. | 72 | 8 | 0 |
| " Out-door work of laying Gardens, etc. .. | 169 | 8 | 0 | " Postage and Stamps Account .. | 52 | 0 | 0 | | |
| " Flower Show Account .. | 863 | 0 | 0 | " Advertisement charges.. | 54 | 8 | 0 | | |
| " Interest from Bankers .. | 10 | 5 | 0 | | | | 106 | 8 | 0 |
| | | | | " Audit fees for 2nd half-year 1903 .. | . | .. | 50 | 0 | 0 |
| | | | | " Security of late Seeds' Clerk with interest returned to him .. | .. | .. | 207 | 11 | 9 |
| | | | | " Security of Cashier deposited with Messrs. Arbuthnot & Co. .. | .. | .. | 750 | 0 | 0 |
| | | | | " Balance of Petty Cash on hand on the 31st March, 1904 .. | 200 | 0 | 0 | | |
| | | | | " Balance of General Cash on the 31st March, 1904 .. | 1,922 | 6 | 10 | | |
| | | | | | | | 2,122 | 6 | 10 |
| Total Rupees .. | 7,098 | 6 | 2 | Total Rupees .. | .. | .. | 7,098 | 6 | 2 |

AGRI-HORTICULTURAL SOCIETY,
TEYNAMPETT,
MADRAS, 14th April, 1904.

L. E. KIRWAN,
Honorary Secretary.

Audited and found correct.

THOS. CRONAN,
Auditor.

R. T. MENZIES,
Honorary Treasurer.

The Proceedings of the Agri-Horticultural Society of Madras for the 2nd Quarter, 1904.

COMMITTEE MEETING.

A Committee Meeting was called for the 24th April, and as only three gentlemen were present, *viz.* the Hon'ble Mr. A. E. Castlestuart Stuart, I.C.S., and Messrs. H. E. Houghton and L. E. Kirwan, the Meeting was postponed.

With reference to the letter circulated to the Members of the Committee by the Honorary Secretary, asking for their sanction to approach Government with a request that they would erect an Aeromotor in the well situated in the piece of ground immediately behind the Botanic Gardens, Mr. Castlestuart Stuart expressed himself in favour of the scheme. He said that such a lift would be invaluable in more ways than one: and the Gardens being easily accessible, it would serve to illustrate to all interested in Agriculture (more especially the ryots) the advantages to be gained by employing simple machinery to secure a certain and abundant supply of water.

He did not think the Society was utilised to the best advantage at present, and thought that very good work could be done by making use of the piece of ground in question for experimental cultivation. Mr. Stuart referred to what Government were doing and intended to do with a view to improve the ryots' stock of seed, and in the course of discussion those present signified their opinion as to what the Gardens might do towards the improvement of Indian vegetables, and that the piece of ground in question offered every facility for the cultivation, selection and improvement of stock seed.

Other points which Mr. Stuart touched upon were the District Agricultural Shows and Societies, which are being organised by the people themselves, and which show that the cultivator is anxious to learn to improve his methods. Unfortunately, he said, these Exhibitions lacked organisation, and he suggested that the heads of these Societies should join the Madras Agri-Horticultural Society, and that special meetings of delegates from the different Societies be held in the Society's Library to discuss various subjects, but more especially to arrange for and fix the dates for their respective Exhibitions several months ahead, and so avoid the haste with

which they are at present arranged, and the inevitable loss of interest which this want of preparation entails.

The Members then adjourned to inspect the well where the Honorary Secretary had proposed that Government should erect a lift. Mr. Stuart thought the well looked satisfactory and its open position favourable, and he said he saw no reason why an Aeromotor should not do good work erected on such a site.

In conclusion, Mr. Castlestuart Stuart offered to help the Committee in procuring a water lift from Government provided the scheme was favourably reported on by the Supervisor in charge of pumping operations, whom he promised to send to examine the well, to ascertain the strength of its springs and to advise as to what would be the best method of improving it, if necessary.

Some experiments have already been carried out with a picottah which afford good reason for supposing that the supply of water will be ample.

In accordance with the promise referred to above, the Supervisor inspected the wells on the 3rd instant and submitted the following Memorandum on the subject:—

Memorandum.

I inspected the wells in the Horticultural Gardens on the 3rd. I also inspected some of the wells round about the gardens now irrigating plantain and betel-leaf gardens. Most of the wells in the two gardens are shallow and on account of the late exceptionally favourable rainy season have about 10 feet of water. One of the wells in the Nursery west of the bungalow has, I believe, a good spring; but the brick lining is all damaged and any rapid baling of water is likely to bring on a collapse of the lining.

Of the two wells west of the Office in the main garden, one has a sandy bottom and the other is in a loamy soil. The one with the sandy bottom has a plentiful spring. The plentiful springs in the wells now irrigating the plantain and betel-leaf gardens in the neighbourhood lead me to expect a plentiful spring in these wells as well, if taken down deep enough into the water-bearing stratum. The cost of such improvements can be estimated only by baling the wells dry and testing the bottoms on which the wells rest. For this purpose a Municipal fire-engine or a portable engine and pump from the P. W. Stores can be easily fitted and tests made. On the whole an expenditure of about Rs. 400 on the well in the nursery and Rs. 800 on the well in the main garden may be necessary for making them fit for the pumps. This is only a rough estimate and requires to be verified when the wells are tested.

The cost and fixing charges of an oil-engine of $3\frac{1}{2}$ H.P. and centrifugal pump of 3 in. bore is estimated to be Rs. 2,000. The working expenses of such an engine with kerosine oil will be Rs. 100 a month, made up as follows:—

| | | Rs. | A. | P. |
|--|----|------------|----------|----------|
| <i>Assuming the engine to work 8 hours a day.</i> | | | | |
| Oil at 1-lb. H.P. hour for 30 days at 7 As. a gallon | .. | 40 | 0 | 0 |
| Lubricating oils, waste, etc. | .. | 15 | 0 | 0 |
| Driver's wages | .. | 20 | 0 | 0 |
| Repairs, interest and depreciation at $12\frac{1}{2}$ % on | | | | |
| Rs. 2,000 | .. | 25 | 0 | 0 |
| | | <u>100</u> | <u>0</u> | <u>0</u> |

With liquid fuel the cost works out to Rs. 90.

| | | | | |
|--|----|-----------|----------|----------|
| Liquid fuel 1, 2 lbs. per H.P. hour for 30 days at | | | | |
| $3\frac{1}{2}$ As. a gallon | .. | 28 | 0 | 0 |
| Lubricating oils, waste, etc. | .. | 17 | 0 | 0 |
| Driver's pay | .. | 20 | 0 | 0 |
| Repairs, interest, etc. | .. | 25 | 0 | 0 |
| | | <u>90</u> | <u>0</u> | <u>0</u> |

The pump and engine working 8 hours a day raise on the whole 86,400 gallons and this quantity is sufficient for irrigation of about 40 acres of garden crops.

A 12 feet Canadian airmotor is estimated to cost, including erection, etc., Rs. 1,500. The working expenses of the motor will be—

| | | Rs. | A. | P. |
|---|----|-----------|----------|----------|
| Grease, oil and other stores | .. | 10 | 0 | 0 |
| Repairs, interest and depreciation at $12\frac{1}{2}$ % per annum | | 16 | 0 | 0 |
| | | <u>26</u> | <u>0</u> | <u>0</u> |

This size of airmotor raises about 2,400 gallons an hour with an 8-mile wind, or sufficient water for an extent of 6 to 8 acres of garden crops.

It is an advantage to run the channels full, and as the discharge from the pump would be but intermittent and in small quantities, a storage tank is a necessity with an airmotor. If advantage is also to be taken of wind power at nights, a tank of sufficient capacity to store up the total quantity will be required.

The wind velocity at nights is under 8 miles and as the quantity of water raised will be very much less, a tank of a capacity of about 10,000 gallons would, I believe, be enough.

The cost of this tank will be Rs. 500, as it will be all above ground-level.

An oil-engine and pump would irrigate both the gardens by a pipe across the roadway.

I would suggest the erection of an engine and pump in the main garden and an airmotor in the Nursery, as object lessons for agriculturists visiting the metropolis. Enquiries are constantly being made as to where people could see a pump or engine at work. and if erected at the Horticultural Gardens would serve to disseminate knowledge of their efficiency to the numerous land-holders visiting Madras on business and for pleasure.

9th June, 1904.

I have the honour to be,

Sir,

Your most obedient servant,

S. RAJAGOPALASAWMY,

Supervisor, Pumping Experiments.

Contributions.—The following contributions were made to the Society during the month of April:—

The *Indian Forester*, Vol. XXX, No. 4, edited by R. McIntosh, Esq., M.A.

Planting Opinion, Vol. IX, Nos. 8, 9, 10, 11 and 12.

The Rise and Progress of the Standard Oil Company, by Gilbert Holland Montagu, Esq., New York, U. S. A.

The Mango, by G. Marshall Woodrow, Esq.

The *Agricultural News*, Vol. III, Nos. 50 and 51, issued by the Commissioner of Agriculture for the West Indies.

The *Tropical Agriculturist*, Vol. XXIII, No. 10, edited by Messrs. A. M. & J. Ferguson.

Report on the Trivandrum Museum and Public Gardens for the year 1902-03.

Contributions to the Queensland Flora. Bulletin No. XVI, by Prof. F. M. Bailey, F.L.S.

The Agricultural Ledger, 1903, No. 12, by J. H. Burkhill, Esq., Off. Reporter on Economic Products to the Government of India.

The Fortieth Annual Report of the Queensland Acclimatisation Society, for the year 1902-03.

Bulletin of the Department of Agriculture, Vol. II, Part I, edited by William Fawcett, Esq., B.Sc., F.L.S., Kingstown, Jamaica.

Curtis's *Botanical Magazine*, Vol. LX, No. 712, by Sir Joseph Dalton Hooker, M.D., F.L.S., etc.

Diseases of *Andropogon Sorghum* in the Madras Presidency, Vol. II, Bulletin No. 49, by C. A. Barber, Esq., M.A., F.L.S.

Records of the Geological Survey of India, Vol. XXXI, Part I.

The *Gardener's Chronicle*, Vol. XXV, Nos. 897, 898, 899 and 900

The following plants and seeds were presented to the Society during the month of April :—

By J. H. Storey, Esq., Superintendent, State Gardens, Udaipur.

1 Packet of seed of *Ricinus communis*.

1 „ „ *Ipomea tuberosa*.

By the Director of the Botanic Gardens and Museum, Paris.

76 Packets of miscellaneous seeds.

By Mons. E. M. Prudhomme, Director of Agriculture, Madagascar.

1 Packet of seed of *Colea Telfaireia*.

By J. H. Maiden, Esq., Director of the Botanic Gardens, Sidney.

25 Packets of miscellaneous seeds.

Plants and Seeds issued :—

To the Director of the Botanic Gardens, Berlin

10 Packets of seeds.

To N. G. B. Kirwan, Esq., for experimental cultivation in the Mysore Presidency, in exchange for a collection of *Dahlia* tubers.

32 economic plants, comprising rubbers, fibres, fruits, resins, scent, and starch-producing plants.

New Members.—In Class A: Lieut.-Col. H. M. Hakim, I.M.S.; Lieut. Austin L. Clover, R. A.; and Rev. C. Pollard. In Class B: A. K. Rajahaiyer and J. H. B. Jackson, Esq.

Superintendent's Notes.

Vanilla belongs to the natural order *Orchideae*, a family of plants widely distributed throughout the tropical, sub-tropical, and temperate zones, and well known for its beautiful and curious flowers. There are very few plants in this order possessing properties of economic value, but a notable exception is the *Vanilla* plant. The *Vanilla* of commerce is obtained from *Vanilla planifolia*, a species indigenous to the moist forests of South-East Mexico. There are several other species which produce an inferior article, and the substance known as *Vanilloes* is obtained from *Vanilla Pompona*.

The *Vanilla* is easy to cultivate in a moist warm climate, under shade. In Pondicherry *Jatropha curcas* is used as a support and shade for the plants. The plants usually commence to flower in the third year, but this is not always the case. A plant placed against a casuarina in the Nursery gardens,

in 1900, flowered in April 1904. The delay in flowering was probably due to the check the plant receives each year during the dry hot season in Madras. The plant remained in flower up to the middle of May, and, during that time, 80 of the number of flowers fertilised produced pods. It requires from four to five months for the fruits to fully develop and ripen; they are plucked from the vine as soon as they show signs of turning yellow. It is at this stage that some knowledge is required of the process of curing and drying the pods, on which depends the preservation of the aroma and fragrance. Only close observation and much practice will insure success in their preparation.

The cultivation of Vanilla was highly profitable, till recently the industry has been threatened with artificial imitations.

Camphor. About 2,500 plants have been raised from the seeds received from Japan in March last. In Japan, which has practically the monopoly of this product, camphor is found growing wild from 30 degrees North to 42 degrees North, in a climate varying from sub-tropical to temperate. The plants have been offered to planters in Southern India at special rates.

Contributions.—The following contributions were received during the month of May:—

The *Indian Forester*, Vol. XXX. No. 5, edited by R. McIntosh, Esq., M.A.

Note from the Royal Botanic Gardens, Edinburgh, January 1904. Contents.—List of seeds available for exchange.

Experimental Station Record, Vol. XV, No. 7, issued by the U. S. Department of Agriculture.

Curtis's *Botanical Magazine*, Vol. LX, No. 713, by Sir Joseph Dalton Hooker, M.D., G.C.S.I., etc.

Buletino del Laboratorio ed. Arto Botanico, issued by the Direttore Istituto Botanico Della R. Università Di Siena.

Bulletin of the Department of Agriculture, Vol. II, Part 3, edited by William Fawcett, B.Sc., F.L.S.

The *Queensland Agricultural Journal*, Vol. XIV, Part 5, edited by A. J. Boyd, Esq.

Agricultural Bulletin of the Straits and Federated Malay States, Vol. III, Part I, No. 3, edited by H. N. Ridley, Esq., M.A., F.L.S.

West Indian Bulletin, Vol. IV, No. 4.

The *Agricultural News*, Vol. III, Nos. 52 and 53, issued by the Commissioner of the Imperial Department of Agriculture for the West Indies.

Bulletin of the Imperial Institute, Vol. II, No. 1, issued by Prof. W. R. Dunstan, F.R.S.

The *Tropical Agriculturist*, Vol. XXIII, No. 2, edited by Messrs. A. M. & J. Ferguson.

Planting Opinion, Vol. IX, Nos. 12, 13, 14, 15 and 16.

Annual Administration Report of the Forest Department of the Madras Presidency for the twelve months ending 30th June, 1903.

Twentieth Annual Report of the Department of Land Records and Agriculture, Bombay Presidency, for the year 1902-03.

Annual Report of the Burdwan Experimental Farm for the year 1902-03.

Annual Report of the Dumraon Experimental Farm for the year 1902-03.

Tanning and Working in Leather in the Province of Bengal, by Rowland N. L. Chandra, Esq., M.A., I.C.S.

The *Gardener's Chronicle*, Vol. XXXV, Nos. 901, 902, 903, 904 and 905.

Annual Report of the Botanic Gardens, Straits Settlements, for the year 1903, issued by H. N. Ridley, Esq., M.A.

Plants and Seeds received :—

From J. Medley Wood, Esq., Director of the Natal Botanic Gardens and Museum, Durban, Natal, one case of plants containing:

- 6 *Coffea Zaqueba'riæ* (Reported disease proof).
- 2 *Ipomea Woodii*.
- 2 *Bauhinia Petersiana*.
- 2 *Schotia latifolia*.
- 4 *Trichelia Dregeana*.
- 2 *Oncoba spinosa*.
- 4 *Olea Woodii*.
- 2 *Chlorocodon* (Whites).
- 4 *Asparagus Myriocladus*.
- 6 *Gerbera Jamesonii*.
- 11 Tubers of *Stenoglottis longifolia*.

These plants were brought over through the courtesy of Mr. Clayton, Chief Officer of the SS. *Umlazi*.

From the Superintendent of Robinson Park.

1 packet of seeds of *Cedrela toona*.

1 „ „ „ *Spathodea* sp.

From L. Sreenivassa Raghava Iyer, Esq., Pleader, Ranipet.

1 packet of seeds of *Dendrocalamus strictus*.

From the Superintendent, Vellore Jail.

1 packet of seeds of Tomato (mixed).

Plants and Seeds issued :—

To the Secretaries of the Ranipet Agricultural Exhibition, in exchange for fruit trees from North Arcot.

190 plants of economic and horticultural value for exhibiting, to be retained to form a nucleus of a collection of plants for the Society being formed there.

$\frac{1}{2}$ lb. Russian sunflower seeds.

57 packets of English vegetable seeds.

New Members.—In Class A: W. D. Smith, Esq.; C. E. Ross, Esq.; F. W. Sewell, Esq.; E. B. Palmer, Esq., and L. Sreenivasaraghava Iyer, Esq. In Class B: Rev. R. U. Potts.

The following paper was circulated to the Committee:—

No. 571.

THE AGRI-HORTICULTURAL SOCIETY,
TEYNAMPETT.

MADRAS, 14th June, 1904.

To

THE MEMBERS OF THE

AGRI-HORTICULTURAL SOCIETY'S COMMITTEE.

GENTLEMEN,—With reference to my circular to you, with regard to asking Government to erect an Aeromotor in the Gardens, for practical experiment, I now lay before you what further steps have been taken, and an estimate of the advantages to be gained by such a water-lift; and also the Hon'ble Mr. A. E. Castle Stuart's remarks.

It should be clearly understood that my suggestion is that Government be asked to meet all the initial expenses. The wells as they at present stand are not equal to the task of supplying sufficient water for the work of an engine or Aeromotor. It will in consequence cost about Rs. 1,200 to deepen the wells sufficiently to allow of an ample supply of water.

An engine erected in the Ornamental Gardens would not only illustrate to agriculturists the benefits to be derived from such a motive power, but would also supply abundance of water for the more thorough upkeep of this section; the trees and shrubs could be kept in health and vigour all the year round, and also the grass might be converted into a good lawn equal in time to an English one.

The shrubs in the borders of the Ornamental Gardens, and the Palms suffer to a considerable extent during the hot weather, and the want of a good regular supply of water prevents more delicate and rare plants being planted out in the open ground.

The well in the open piece of ground is considered the best position for the Aeromotor. If we could have one erected here, this piece of land which has up to the present been almost a desert, could be converted into a fruit or vegetable or other garden, and would produce crops which would bring in a handsome profit to the Society.

There would be little difficulty I should imagine in procuring a man to tend the engine on a monthly salary of from Rs. 10 to Rs. 15, judging by the Rev. Mr. Andrew's experience at Melrosapuram; and it would not be necessary to run the engine daily for 8 hours, which would save in oil say Rs. 10 per month, and, of course, the depreciation would not effect our capital.

I should say that Rs. 60 per month would cover the expenses of working an oil-engine, which would be Rs. 10 more than we now pay for Red Hills water, but for this difference of Rs. 10 we should always have an ample supply of water, and the land behind the Nursery could be cultivated and made to yield substantial profits for the Society, besides being an instructive object lesson to the ryot.

Yours faithfully,

L. E. KIRWAN,

Honorary Secretary.

COMMITTEE MEETING.

At a Committee Meeting held in the Society's Library on Tuesday, the 21st June, 1904, the following gentlemen were present:—

CHAS. SOWDEN, Esq., *in the Chair.*

H. E. HOUGHTON, Esq.

G. NARAYANASAWMY CHETTY, Esq.

R. T. MENZIES, Esq., *Honorary Treasurer.*

C. A. BARBER, Esq.

L. E. KIRWAN, Esq., *Honorary Secretary.*

Read letters from his Reverence the Archdeacon A. A. Williams expressing his thanks to the Committee for the Resolution passed at the meeting held in February 1904; from J. L. Walker, Esq., thanking the members of the Society for the honour they had done him in electing him an extraordinary member; from V. G. Lynn, Esq., and G. W. Dance, Esq., I.C.S., resigning office on the Committee.—*Recorded.*

Resolutions.

The following Resolutions were passed:—

1. That Mr. Greenall be asked to join the Committee in place of Mr. V. G. Lynn, resigned.

2. That Major R. M. Bell be asked to join the Committee in place of Mr. Dance, resigned.

3. That with reference to the new roof for the Superintendent's Bungalow, the estimate of Nagappa Maistry amounting to Rs. 835 be accepted, and that before commencing work, he be requested to signify his acceptance of the contract in writing.

4. That estimates for the proposed new Lines be called for.
5. That Krishnasawmy (late seed clerk) be informed in answer to his petition that in accordance with his letter of October 19th, 1901, on receipt of Rs. 600, the Committee will be glad to hand over his title deeds.
6. That a sample consignment of seeds be ordered from Messrs. Sutton & Sons according to the arrangement mentioned in their letter to the Superintendent.
7. That the question of procuring an engine and aeromotor for Government, for use in the Nursery Gardens, be referred to the Honorary Secretary and the Hon'ble Mr. Castle Stuart to discuss, and that any expenditure be referred to the Committee before being sanctioned.

Contributions.—The Secretary then intimated that the following contributions had been made to the Society during the month of June :—

The *West Indian Bulletin*, Vol. V, No. I, Index for Bulletin Vol. IV, and *Agricultural News*, Vol. III, No. 54 and 55, issued by the Commissioner of the Imperial Department of Agriculture for the West Indies.

The *Indian Forester*, Vol. XXX. No. 6. Edited by R. Macintosh, Esq., M.A.

The *Agricultural Ledgers*, No. 1, 1904, *Aquilaria agallocha*, and No. 2, 1904, *Sapium sebiferum*, issued by Sir George Watt, Calcutta.

Annual Report of the Royal Botanic Gardens, Calcutta, for the year 1903-04, issued by Major D. Prain, M.B., Superintendent.

The *Tropical Agriculturist*, Vol. XXIII, No. 12. Edited by Messrs. A. M. & J. Ferguson, Colombo.

Bulletin of Miscellaneous Information, Appendix III, 1904, issued by Sir William Thistleton Dyer, Director, Royal Botanic Gardens, Kew.

Bulletin of the Department of Agriculture, Vol. II, Part 4. Edited by William Fawcett, Esq., B.Sc., F.L.S., Jamaica, West Indies.

Experiment Station Record, of the United States Department of Agriculture, Vol. XV, No. 8, issued by A. C. True, Director.

The *Gardener's Chronicle*, Vol. XXXV, Nos. 906, 907, 908 and 909.

Curtis's *Botanical Magazine*, by Sir Joseph Dalton Hooker, M.D., G.C.S.I., etc.

Planting Opinion, Vol. IX, No. 17, 18, 19, 20.

Agricultural Bulletin of the Straits and Federated Malay States, Vol. III, Part I, No. 4. Edited by H. N. Ridley, Esq., M.A., F.L.S.

Administration Report of the Royal Botanic Gardens, Ceylon. Part IV, 1903. Issued by J. C. Willis, Esq., M.A., F.L.S., Director.

Plants and Seeds received :—

From N. G. B. Kirwan, Esq., Arabidecool Estate, Chickmagalur, Mysore.

500 Dahlia tubers.

From H. F. Macmillan, Esq., Curator, Royal Botanic Gardens, Peradeniya, Ceylon.

- 1 packet of seeds of *Loxococcus rupicola*.
- 1 " " " *Chrysalidocarpus lutescens*.
- 1 " " " *Lantania Commersonii*.
- 1 " " " *Ptychosperma MacArthuri*.
- 1 " " " *Licuala peltata*.
- 1 " " " " " " *grandis*.

From J. N. Nellasawmi Pillay, Esq., Coimbatore.

9 orchids.

J. Medley Wood, Esq., A. L. S., Director Public Gardens and Museum, Durban, Natal.

50 packets of seeds (a miscellaneous collection).

Lieut.-Col. P. H. Benson, I.M.S., Bangalore.

1 oz. of seeds of *Passiflora edulis*.

Plants issued :—

To J. Medley Wood, Esq., A. L. S., Director Public Gardens and Museum, Durban, Natal.

One case containing 15 Mango grafts of Salem and Madras kinds.

To Messrs. Venkatasawmy & Sons, Bangalore.

A collection of miscellaneous plants, 39 in all.

New Members.—In Class A : Major R. M. Bell and Lieut.-Col. P. H. Benson, I.M.S. In Class B : C. Murugasa Mudaliar, Esq., and J. C. Large, Esq.

L. E. KIRWAN,
Honorary Secretary.

Proceedings of the Agri-Horticultural Society of Madras for the 3rd Quarter ending 30th September, 1904.

At a Committee Meeting held on the 16th July, the following gentlemen were present:—

| | |
|--|--|
| The Hon'ble Mr. C. J. WEIR, I.C.S. | H. E. HOUGHTON, Esq. |
| C. SOWDEN, Esq. | G. NARAYANASAWMY CHETTY, Esq. |
| The Hon'ble Mr. CASTLE- STUART STUART, I.C.S. | L. E. KIRWAN, Esq., <i>Honorary Secretary.</i> |
| J. G. SMITH, Esq. | |

Proposed by Mr. Sowden and seconded by Mr. Houghton, that Mr. Weir take the Chair.

Resolutions.—The following Resolutions were passed:—

1. That with reference to the sale of strawberries, Mr Large be informed, that though the Society undertook the sale of his fruit last year, to ascertain if there would be a market for it in Madras, they regret they cannot continue to act as his agent.

2. That the late seed clerk's petition be recorded and filed with his previous letters.

3. That Government be asked to supply the Society with a Canadian aeromotor for experimental purposes, and to lend the Society Rs. 1,000 under the Agricultural Loans Act to make the well efficient and to construct a reservoir.

4. Proposed by the Hon'ble Mr. Castlestuart Stuart, that the Committee Meeting be held in future on the last Saturday of each month at 7-30 A.M.—*Carried.*

Budget Estimate.—Read the following paper from the Honorary Secretary, Agri-Horticultural Society, Madras, dated 12th July, 1904.

Abstract.—Submitting Budget estimate for 1905-06. Detailed Account No. 26, etc.

Detailed Account No. 26. Government Scientific, etc.

| RECEIPTS. | Budget Estimate, 1905-06. | Revised Estimate, 1904-05. | Budget Estimate, 1904-05. | Account. | | |
|---|------------------------------|-------------------------------|------------------------------|----------|----|----|
| | RS. | RS. | RS. | RS. | A. | P. |
| By Agri-Horticultural Gardens, Madras.. | 4,000 | 4,000 | 4,000 | 4,000 | 0 | 0 |
| By Government monthly and extra grant .. | 3,500 | 3,500 | 3,500 | 3,500 | 0 | 0 |
| „ Government Flower Show grant .. | 500 | 500 | 500 | 500 | 0 | 0 |
| „ Sales of seeds, flowers, plants, fruit trees, etc. .. | 6,000 | 7,000 | 4,000 | 7,184 | 14 | 2 |
| „ Sales of ichthemic guano .. | 100 | 100 | 100 | 100 | 8 | 0 |
| „ Sundries including rail, shipping and packing charges, cart-hire, etc. .. | 1,000 | 1,100 | 1,000 | 1,115 | 14 | 0 |
| „ Subscription from Members .. | 2,000 | 2,000 | 1,800 | 2,350 | 8 | 0 |
| „ Sales of admission tickets, etc., in the Flower Show .. | 1,000 | 1,000 | 1,000 | 1,155 | 7 | 0 |
| „ Out-door work of laying gardens, etc. .. | 500 | 500 | 500 | 583 | 0 | 0 |
| „ Interest on floating account .. | 25 | 40 | 25 | 16 | 13 | 10 |
| Total Rs. .. | 14,625 | 15,740 | 12,425 | 16,508 | 1 | 0 |

PROCEEDINGS OF THE MADRAS GOVERNMENT.

1418

10—8—04.

Read the following Paper :—

From the Honorary Secretary, Agri-Horticultural Society,
Madras, No. 673, dated 12th July, 1904.

ORDER:—No. 490, dated 3rd August, 1904.

The usual grant of Rs. 4,000 to the Agri-Horticultural Society, Madras, will be entered under “26 J. SCIENTIFIC,

Department, Botanic and other Public Gardens.

| EXPENDITURE. | Budget Estimate, 1905-06. | Revised Estimate, 1904-05. | Budget Estimate, 1904-05. | Account. | | |
|--|------------------------------|-------------------------------|------------------------------|----------|----|----|
| | RS. | RS. | RS. | RS. | A. | P. |
| To Pay of Establishment | 5,000 | 5,000 | 4,800 | 4,809 | 10 | 11 |
| „ Pay of coolies | 1,200 | 1,200 | 1,000 | 1,166 | 7 | 6 |
| „ Seeds, flowers, plants, fruit trees, etc., purchased | 3,000 | 2,800 | 2,500 | 3,817 | 14 | 1 |
| „ Ichthemic guano | 100 | 100 | 100 | 124 | 10 | 5 |
| „ Red Hills water-supply | 500 | 500 | 300 | 242 | 3 | 4 |
| „ Sundries including rail, shipping and packing charges, cart-hire, etc. | 1,000 | 1,500 | 1,000 | 1,336 | 8 | 8 |
| „ Printing, stationery, books and periodicals | 700 | 700 | 650 | 704 | 1 | 7 |
| „ Advertisement | 350 | 350 | 350 | 386 | 11 | 10 |
| „ Petty charges including carriage- hire, etc. | 100 | 100 | 100 | 80 | 13 | 8 |
| „ Garden requisites including pots, manure, sand, etc. | 1,000 | 1,000 | 1,000 | 747 | 14 | 0 |
| „ Building and repairs | 1,500 | 1,500 | 300 | 1,413 | 14 | 10 |
| „ Furniture and plant | 50 | 50 | 50 | 319 | 9 | 9 |
| „ Quit-rent and Municipal tax | 50 | 50 | 50 | 45 | 12 | 0 |
| „ Postage and Stamps | 250 | 250 | 250 | 229 | 2 | 0 |
| „ Flower Show account | 1,150 | 1,150 | 1,150 | 1,040 | 15 | 9 |
| „ Out-door work account | 200 | 200 | 200 | 174 | 14 | 9 |
| „ Commission to Superintendent | 225 | 225 | 225 | 207 | 4 | 2 |
| „ Audit fees | 100 | 100 | 100 | 100 | 0 | 0 |
| Total Rs. .. | 16,475 | 16,775 | 14,125 | 16,949 | 9 | 3 |

L. E. KIRWAN,
Honorary Secretary.

Etc. DEPARTMENTS—Botanical and other Public Gardens”
in the Civil Budget estimate for 1905-06.

2. The special allotment of Rs. 500 for prizes will not be
disbursed in the event of the Annual Flower Show not being
held in 1906. (True Extract.)

M. HAMMICK, *Ag. Chief Secretary.*

Contributions.—The Honorary Secretary then intimated that the following contributions had been made to the Society during July :—

Agricultural Bulletin of the Straits and Federated Malay States, Vol. III, Part I, No. 5, edited by H. N. Ridley, Esq., M.A., F.L.S.

Department of Land Records and Agriculture, Bombay, Bulletin No. 32, Prickly-pear and Aloe as fodder for cattle during scarcity.

Department of Land Records and Agriculture, Madras, Vol. II, Bulletin No. 50, Sugarcane cultivation in the Deccan District of the Madras Presidency.

The following bulletins in the *Agricultural Ledger* series :—

No. 3. *Iron ores* in the Jabalpur District, Central Provinces.

No. 4. *Ficus* spp. Note on the chemical examination of the fruits.

No. 5. *Shorea robusta*, seeds as a famine food.

No. 6. *Famine foods*. Issued by Sir George Watt, Reporter on Economic Products to the Government of India.

The *Indian Forester*, Vol. XXX, No. 7, edited by R. McIntosh, Esq., M.A.

The *Queensland Agricultural Journal*, Vol. XIV, Part 7, edited by A. J. Boyd, Esq., F.R.G.S.Q.

The *Tropical Agriculturist*, Vol. XXV, No. I, edited by Messrs. A. M. & J. Ferguson, Colombo.

Bulletin of the Department of Agriculture, Jamaica, Vol. 2, Parts 5 and 6, edited by William Fawcett, Esq., B.S.C., F.L.S.

West Indian Bulletin, Vol. V, Part I, contents: Miscellaneous and Pamphlet Series No. 31. Cotton Planting, issued by the Commissioner, Imperial Department of Agriculture, West Indies.

Records of the Geological Survey of India, Vol. XXXI, Part 2.

Reports of the Experimental Farms for 1903, issued by the Director of Agriculture, Ottawa.

Experimental Station Records. Vol. XV, No. 9, issued by the U.S. Department of Agriculture.

Annual Report of the Royal Botanic Gardens, Calcutta, for the year 1903-04.

Annual Report of the Government Botanic Gardens, Saharanpur and Mussoorie, for the year ending 31st March, 1904.

Annual Report of the Government Horticultural Gardens, Lucknow, for the year ending 31st March 1904.

Report on the season and crops of Assam for the year 1903-04, by F. C. Henniker, Esq., I.C.S.

Administration Reports of the Royal Botanic Gardens, Peradeniya, Ceylon, 1903, Part IV, by J. C. Willis, M.A., F.L.S., Director.

Government of Madras Revenue. G. O. No. 563, 25th May, 1904. Experimental Irrigation.

G. O. No. 577, 3rd June, 1904. Cultivation of cow peas in waste land attached to the Agri-Horticultural Gardens, Teynampett.

G. O. No. 696, 1st July, 1904. Cinchona Administration Report.



The *Agricultural News*, Vol. III, Nos. 56 and 57, issued by the Imperial Department of Agriculture for the West Indies.

The *British Trade Journal*.

The *Indian Electrical and Mechanical and Textile News*, Vol. I, Nos. 7, 8, 9, 10, Bombay.

The *Gardener's Chronicle*, Vol. XXXVI, Nos. 910, 911, 912, 913, 914. (Purchased.)

Law Somner & Co.'s seed and fruit catalogue, Melbourne, Australia.

Frederic Adolph Haage, jun., catalogue of choice cacti, succulent plants, seeds, etc.

Plants and seeds issued:—

To A. G. Nicholson, Esq., Hallacary Estate, Coonoor.

1 *Landolphia Florida*

1 „ *Kirkii*.

1 *Funtumia elastica*.

1 *Chonomorpha macrophylla*.

To the Superintendent, Victoria Gardens, Bombay.

5 packets of seeds of indigenous trees.

New Members.—Class A: J. A. Hubbard, Esq., and Capt. C. R. Newman. — Class B: J. C. Large, Esq., Mrs. Fenn Godwin and K. C. Manavadan Raju, Esq.

Superintendent's Notes.

A Branching Palmyra.—The attached illustration shows the very remarkable growth of a Palmyrah growing in Guindy Park. It is not an uncommon thing to come across a Palmyrah with two or even three branches, but this one which has 12 fully developed heads and 28 blind branches is apparently unique. No reason for this curious phenomenon is forthcoming; the tree, which is of the usual height and robustness, does not appear to have been damaged in any way.

The Cannon Ball tree—*Couroupita Guineensis*.—This tree in the coconut tope border flowered this year for the second time, the first flowers having been produced in 1900. It was hoped at that time that the tree would continue to bear flowers regularly, but such has not been the case. There is always a demand for this tree, the Hindus being especially anxious to procure plants for their temple gardens. It has been generally reported that the plant is only capable of propagation by seeds or root cuttings, and that the latter is a very uncertain process. Experiments were undertaken in the cool season of 1903, and plants were propagated on a hot bed, from half-ripe side shoots, about 2 inches long. It was noticed, however, that the process of callusing and the production of young roots was very slow, as compared with other hard-wooded plants.

Committee Meeting.

At a Committee Meeting held at the Society's Library on the 27th August, the following gentlemen were present :—

C. A. BARBER, Esq., F.L.S.

The Hon'ble Mr. CASTLESTUART STUART, I.C.S., *Ex-officio*.

Major R. M. BELL,

H. E. HOUGHTON, Esq.

C. SOWDEN, Esq., *in the Chair*.

J. G. SMITH, Esq.

G. NARAYANASAWMY CHETTIAR, Esq.

R. T. MENZIES, Esq., *Honorary Treasurer*.

L. E. KIRWAN, Esq., *Honorary Secretary*.

Resolutions.

The following Resolutions were passed :—

1. That the date of the Committee Meeting be changed from the last Saturday in the month back to the first Monday in each month, and also that the time be altered from 7-30 A.M. to 7 A.M.

2. That a Society or public body may join the Madras Agricultural Society in the name of one of its officers, such for instance as the Chairman or Secretary *pro tem.*, but that it is not permissible for such Societies to join as Life Members.

3. That with reference to the Deputy Collector's reply to the Honorary Secretary's letter of the 27th July, the Honorary Secretary be requested to reply :—

(a) That the maximum period of the loan be fixed at 10 years.

(b) That the Society's office buildings be offered as security at a valuation of Rs. 2,000.

4. That N. Krishnasawmi's letter be recorded.

5. That estimates for completing the repairs to the Superintendent's bungalow be sanctioned.

6. That the Cashier, Somasundra Moodeliar, having petitioned the Committee individually against his dismissal, the Committee saw no reason to re-open the subject.

7. That the following gentlemen be asked to join the Sub-Committee, for passing estimates for the erection of the new buildings: Major R. M. Bell and Messrs. H. E. Houghton, R. T. Menzies and L. E. Kirwan.

In accordance with the Resolution passed at the Committee Meeting held on 16th July, the following letter was addressed to Government :—

From

L. E. KIRWAN,

Honorary Secretary,

Madras Agri-Horticultural Society,

To

THE COMMISSIONER OF REVENUE SETTLEMENT AND

DIRECTOR OF THE DEPARTMENT OF LAND RECORDS

AND AGRICULTURE, CHEPAUK.

SIR,—I am directed by my Committee to approach you with the request that Government will supply the Agri-Horticultural Society with a Canadian aeromotor for the purpose of lifting water from a well in the Society's Nursery Gardens, with a view to irrigating a piece of ground from two to three acres in extent, at present practically lying idle for want of water. The Committee desire me to point out that while the Society's Nursery Gardens would be a very convenient place wherein the advantages of such an aeromotor as that proposed could be tested, the water would enable them to extend their operations in accordance with their main objects, *viz.*, the improvement of Agriculture, Arboriculture and Horticulture, the introduction and improvement of new and useful plants of all kinds, and the formation of a collection of the most valuable trees and plants of all countries that can be made to thrive in a tropical climate.

Moreover, inasmuch as the existing well over which it is proposed to erect the aeromotor will require deepening and strengthening, and as it will be advisable to build a reservoir, my Committee desire me to beg the Government to grant them a loan of Rs. 1,000 for these purposes under the Agricultural Loans Act.

I have the honor to be,

Sir,

Your most obedient servant,

(Sd.) L. E. KIRWAN, *Hony. Secretary,*

Madras Agri-Horticultural Society.

Ref. No. $\frac{891}{C}$.

MADRAS,

Deputy Collector's Office,

23rd August, 1904.

From

J. R. COOMBES, Esq.,

Deputy Collector of Madras,

To

THE HONORARY SECRETARY,

Agri-Horticultural Society,

Madras.

SIR,—Adverting to your application to the Board of Revenue for a loan of Rs. 1,000 under the Agriculturists' Loan Act, I have the honor to request you to be so good as to obtain the views of your

Committee at an early date on the following points raised by the Board :—

1. The security which the Society is prepared to offer, its value and prior encumbrances, if any.
2. If the Agri-Horticultural Gardens are themselves to form the security, information as to the title on which they are held, whether they belong altogether to the Society or partly to it and partly to Government.
3. The maximum period within which the loan can be repaid.

I have the honor to be,

Sir,

Your most obedient servant,

J. R. COOMBES,

Deputy Collector.

Contributions.—The Honorary Secretary then intimated that the following contributions had been made to the Society during the month of August :—

1 Year-Book of the Department of Agriculture, Washington, for 1903.

The following bulletins in the *Agricultural Ledger* series :—

No. 7. Indian Bees wax, *Apis Dorsata*, etc.

No. 8. *Marsdenia tenacissima*. Rajmahal hemp.

No. 9. *Altinghia excelsa*, Burmese storax, issued by Sir Geo. Watt, Reporter on Economic Products to the Government of India.

Hawaii Agricultural Experiment Station. Bulletin No. 5. A sugarcane leaf hopper in Hawaii, by D. L. Van Dine.

Report of the Agricultural Branch of the Department of Land Records and Agriculture, Bengal, for the year ending 31st March, 1904.

Madras, G. O. No. 676, Revenue Report on the use of Green Manure.

The *Queensland Agricultural Journal*, Vol. XV. Part 2, edited by A. J. Boyd, Esq., F.R.G.S.Q.

Bulletin of the Imperial Institute, Vol. II, No. 2, issued by Prof. W. R. Dunstan, F.R.S.

The *Tropical Agriculturist*, Vol. XXIV, No. 2, edited by Messrs. A. M. & J. Ferguson.

The *Indian Forester*, Vol. XXX, No. 8, edited by R. McIntosh, M.A.

Fifteenth Annual Report of the Missouri Botanical Gardens, St. Louis, Mo.

Experimental Station Record, Vol. XV, Nos. 10 and 11 of the U. S. Department of Agriculture.

Report of Work of the Agricultural Experiment Station of the University of California, for the year ending 30th June, 1903.

Proceedings and *Journal* of the Agricultural and Horticultural Society of India for October 1903—March 1904.

Curtis's Botanical Magazine, Vol. LX, No. 1410, by Sir Joseph Dalton Hooker, M.D., etc.

Transactions of the Wisconsin Academy of Sciences, Arts and Letters, Vol. XIII, Part II, 1901, and Vol. XIV, Part I, 1902.

Agricultural News, Vol. III, Nos. 57 and 58, issued by the Commissioner of Agriculture for the West Indies.

The *Gardener's Chronicle*, Vol. XXXVI, Nos. 915, 916, 917, 918, 919. (Purchased.)

Seeds and plants issued:—

To Superintendent, Guindy Park, Madras.

91 plants of sorts.

C. J. Clayton, Esq., S.S. Umlazi.

24 plants of sorts.

Plants and seeds received:—The following plants and seeds were presented to the Gardens during August.

From H. F. Macmillan, Esq., Curator, Royal Botanic Gardens, Peradeniya, Ceylon.

150 seeds of *Funtumia (Kicksia) elastica*.

From G. H. Cave, Esq., Ag. Curator, Government Botanic Gardens, Ootacamund.

20 kinds of *Chrysanthemum* cuttings.

From Superintendent, Guindy Park.

920 bulbs of *Crinum latifolium*.

From L. E. Kirwan, Esq., Nungambaukum, Madras.

1 Packet of seeds, unnamed.

New Members:—CLASS A: D. Marshall, Esq., Capt. R. H. B. Anderson, and Lt.-Col. A. Sealy Allen, A.M. INST. CLASS B: Miss A. MacGregor, Messrs. P. R. Lakshmanarama Aiyar, M. Rama Row, K. S. Srinivasa Pillay and Miss F. Williams.

Superintendent's Notes.

The Pampass Grass.—*Cynierium argenteum*.—Contrary to expectationst his plant, which was presented to the Gardens by Mr. J. L. Walker in 1902, has grown remarkably well, and at the present time is throwing out four good flowering spikes. The plant is in a sheltered spot in partial shade all day, which is evidently an ideal position for it.

Japanese Bamboos.—Sir Frederick Price, K.C.S.I., presented the Gardens with 14 Bamboo plants, from a collection of Japanese varieties which he brought over from Japan, and has acclimatised on the Nilgiris. The plants were potted and are already throwing out healthy shoots.

Committee Meeting.

At a Committee Meeting held in the Society's Library on Monday, the 3rd October, the following gentlemen were present :—

The Hon'ble Mr. Justice H. T. BODDAM, *Chairman*.

The Hon'ble Mr. H. BRADLEY, I.C.S.

J. G. SMITH, Esq.

H. E. HOUGHTON, Esq.

C. SOWDEN, Esq.

R. T. MENZIES, Esq., *Honorary Treasurer*.

L. E. KIRWAN, Esq., *Honorary Secretary*.

Read letters from Col. H. W. H. Cox forwarding seeds of *Loasa aurantiaca*, *Rose* and *Abutilon* hybrids. Recorded with thanks.

From the Chamber of Commerce, Cocanada, requesting that their Chairman (Mr. P. J. Rose) be elected for the time being, as a Life Member of this Society.

From Major R. M. Bell resigning his seat on the Committee, owing to pressure of work. Recorded with regret.

From Mr. B. F. Cavanagh, Superintendent, asking the Secretary to ask Mr. Houghton to withdraw his remarks made at the previous Meeting, or to make a definite accusation against him; and in the event of the latter, to ask the Committee to inquire into the matter.

Resolutions :—The following Resolutions were passed :—

1. That the Committee are agreeable to make Mr. P. J. Rose a Life Member, or the Chamber of Commerce in the name of its Chairman an annual member.

2. That Mr. H. E. Houghton's collection of *Dracenas*, comprising nearly 500 pots, be purchased for Rs. 300.

3. That Mr. H. E. Houghton be enrolled as a Life Member on payment of Rs. 300.

4. That a safe be purchased and placed in the Superintendent's Bungalow.

5. That if suitable arrangements can be made, Messrs. Spencer & Co. be made the Society's Bankers, in place of Messrs. Binny & Co.

6. That the Superintendent be informed that Mr. Houghton withdraws the remarks he made at the previous Meeting, and, further, has no charges against Mr. Cavanagh of any kind.

Contributions.—The Honorary Secretary then intimated that the following contributions had been made to the Society during the month of September :—

The *Queensland Agricultural Journal*, Vol. XV, Part 3, edited by A. J. Boyd, Esq., F.R.G.S.Q.

Bulletin of the Department of Agriculture, Jamaica, Vol. II, Parts 7 and 8, edited by William Fawcett, Esq., B.Sc., F.L.S.

Bulletin of the Imperial Institute. Vol. II, No. 2, issued by Prof. W. R. Dunstan, F.R.S.

Journal of the Royal Horticultural Society, Vol. XXVIII, Parts 3 and 4, edited by the Rev. W. Wilks, M.A., Secretary.

Curtis's Botanical Magazine, Vol. LX, No. 1411, issued by Sir Joseph Dalton Hooker, M.D., etc.

Agricultural Bulletin of the Straits and Federated Malay States, Vol. III, No. 7, edited by H. M. Ridley, Esq., M.A., F.L.S.

The *Gardener's Chronicle*, Vol. XXXVI, Nos. 921, 922, 923, 924.

The following bulletins in the *Agricultural Ledger* series :—

No. 10. *Manihot utilissima* (Cassava, Tapioca, Manioc).

No. 11. *Carthamus tinctorius* (Safflower).

No. 12. *Bixa Orellana* (The Annatto-Dye plant), issued by Sir George Watt, Calcutta.

Annual Report of the Civil Veterinary Department, Bengal, and of the Bengal Veterinary College, for the year 1903–1904.

Report of the Agricultural Branch of the Department of Land Records and Agriculture, Bengal, for the year ending the 31st March, 1904.

Report of the Botanic Garden, British Guiana, for the year 1903–1904.

Government of Madras Revenue. G. O. No. 745, 14th July, 1904, Experiments in the improvement of cotton.

G. O. No. 728, 9th July, 1904, the Board's proceedings regarding the Experimental Cultivation of Indigo.

Agricultural News, Vol. III, Nos. 59 and 60, issued by the Commissioner of Agriculture for the West Indies.

Records of the Botanical Survey of India, Vol. III, No. 1, by Capt. A. T. Gage, I.M.S.

The *Indian Forester*, Vol. XXX, No. 9, edited by R. McIntosh, Esq., M.A.

The *Tropical Agriculturist*, Vol. XXIV, No. 3, edited by Messrs. A. M. & J. Ferguson, Colombo.

Annales de l'Institut Central Ampélogique Royal, Hongrois. Tome III, Livraison 1, 1904.

The *Indian Electrical, Mechanical and Textile News*, Vol. I, Nos. 11, 12, 13.

Annual Report on the Government Cinchona Plantation and Factory in Bengal, for the year 1903–04.

Circulars and *Agricultural Journal* of the Royal Botanic Gardens, Ceylon.

Vol. II, No. 20. A Report on some Ceylon timbers.

No. 21. Cacao Canker and spraying in Ceylon.

Plants and Seeds received. The following plants and seeds were presented to the Gardens during September:—

From Col. H. W. H. Cox, Ealing, London.

- | | | |
|---|-------------------|------------------------------------|
| 1 | Packet of seed of | <i>Rosa Polyantha multiflora</i> . |
| 1 | „ „ | <i>Abutilon</i> Ryder's Prize. |
| 3 | „ „ | <i>Loasa aurantiaca</i> . |

From Major D. Prain, I.M.S., Superintendent, Royal Botanic Gardens, Calcutta.

$\frac{1}{2}$ lb. of seed of *Arundinaria Hookeriana*.

New Members.—The following gentlemen were elected ordinary members of the Society:—

IN CLASS B.—C. Mildred, Esq., and E. Dady, Esq.

Superintendent's Notes.

Lodoicea Seychellarum.—The Coco-de-Mer, or Double Cocoanut. An attempt was made to introduce this rare and useful palm in 1901, but owing to circumstances over which we had no control the attempt was a failure. In August of this year Mr. H. M. Phipson, the Honorary Secretary of the Bombay Natural History Society, wrote offering the Gardens two fresh nuts. This generous offer was gratefully accepted and the nuts were received at the latter end of August and were immediately placed in a cool sheltered position. On the 27th September one nut showed signs of germination, and hopes are entertained that at last we shall be able to include this curious and rare palm amongst our collection.

Dutch Garden.—The existence of a small Dutch Garden in the Society's Gardens, does not appear to be very generally known amongst the Members. The original site of the Dutch Garden was a leaf pit and rubbish heap, which was hidden from the public's gaze by a thick belt of Agave. These Agaves were cleared away, the leaf pits filled in, and the present Dutch Garden (designed by Mrs. Shaw) made in 1872.

In later years it does not appear to have received much attention. It was however taken in hand this hot season, and the beds which had lost their original and symmetrical shape, were re-made, and the green edging of Eupatorium replaced with a neat tile edging. The walks were also re-gravelled, and the whole has been planted up with the best varieties of Cannas, separate varieties in separate beds. The position is admirably suited to Cannas, and they should in consequence make a good show later in the season.

The Lawns. -- A new mowing machine of a larger type has been purchased, and is now in constant use on the lawns, the improved appearance of which is most noticeable.

Identification of Agaves.—Specimens of all the Agaves and Aloes growing in the Gardens were sent to Major Prain (by request) for identification. Extracts of Major Prain's letter, together with a tabular statement of the Agaves named, are attached.

Extract from the list of Agave specimens received and examined at the Royal Botanic Gardens, Calcutta.

| — | From whom received. | Under what name. | Current identification. |
|-----|-----------------------------|----------------------------|---|
| 93 | Agri-Horticultural Society. | Agave Americana variegata. | Agave Americana Linn. |
| 94 | Do. .. | Do. vivipara .. | Do. Wightii Drummond and Prain (not yet published). |
| 95 | Do. .. | Do. Americana striata | Do. Americana Linn. ('striated' form). |
| 96 | Do. .. | Do. vivipara variegata .. | Do. Wightii Drummond and Prain (variegated form). |
| 97 | Do. .. | Do. rigida Sisalana. | Do. Sisalana Perrine (spiny form). |
| 98 | Do. .. | Do. longifolia .. | Do. Cantula Roxb. |
| 99 | Do. .. | Do. Americana .. | Do. Vera Cruz Miller. |
| 100 | Do. .. | Furcraea gigantea .. | Furcraea gigantea Vent. |

D. O. No. $\frac{4642}{89 \text{ E. C. P.}}$ of 1904.

Royal Botanic Gardens,
Sibpur,
Calcutta,
29th August, 1904.

DEAR SIR,—As regards the identification of the species to which the different leaves are referable, I enclose a memo. from which you will learn the names to which the specimens have been provisionally referred in this Herbarium. Certain of the names now in use for *Agaves* in India will have to be revised as will appear from a paper now in course of preparation, and among these is the name "*vivipara*" for which it is proposed to substitute *A. Wightii*.

Before making any changes in your lists, however, it would be well to await the publication of the paper in question.

The Aloes have not so far been identified.

Yours faithfully,
D. PRAIN,
Superintendent,
Royal Botanic Gardens, Calcutta.

Financial Statement from 1st July to 30th September, 1904.

| PARTICULARS OF RECEIPTS. | | Amount. | | Total. | | PARTICULARS OF DISBURSEMENTS. | | Amount. | | Total. | |
|---|----|---------|-------|--------|-------|--|----|---------|-------|--------|-------|
| | | RS. | A. P. | RS. | A. P. | | | RS. | A. P. | RS. | A. P. |
| By Balance with Messrs. Binny & Co. | | | | | | To Establishment—Superintendent's | | | | | |
| on the 30th June, 1904 | .. | 2,393 | 3 5 | | | Salary | .. | 675 | 0 0 | | |
| Do. of Petty Cash on hand on | .. | 200 | 0 0 | | | Do. Office and Garden. | .. | 482 | 8 1 | 1,157 | 8 1 |
| the 30th June, 1904 | .. | | | 2,593 | 3 5 | " Garden coolies, permanent | .. | 171 | 9 0 | | |
| " Security of Cashier T. Somasundra Mudaliar deposited with Messrs. Arbuthnot & Co. | .. | | | | | " Do. temporary | .. | 124 | 15 6 | | |
| " Security of Cashier S. Thathachari deposited with Messrs. Arbuthnot & Co. | .. | 750 | 0 0 | | | " Commission to the Superintendent for the 2nd quarter.. | .. | | | 296 | 8 6 |
| " Subscription from Members of A Class | .. | 750 | 0 0 | | | " Seeds, plants, flowers, fruit trees, etc. | .. | .. | .. | 60 | 11 11 |
| " Subscription from Members of B Class | .. | 489 | 0 0 | 1,500 | 0 0 | " Charges recoverable account | .. | .. | .. | 311 | 3 7 |
| " Government Grant for the month of June 1904 | .. | 117 | 0 0 | | | " Garden requisites including pots, etc. | .. | .. | .. | 328 | 15 3 |
| " Government Grant for the month of July 1904 | .. | | | 606 | 0 0 | " Out-do or work of laying Gardens, etc. | .. | .. | .. | 151 | 0 2 |
| " Government Extra Grant for the year 1904 | .. | 250 | 0 0 | | | " Discount on mofussil cheques | .. | .. | .. | | |
| | .. | 250 | 0 0 | | | " Petty charges including carriage hire, etc. | .. | 13 | 9 0 | | |
| | .. | 500 | 0 0 | | | " Sundries including oil, etc. | .. | 2 | 1 3 | | |
| | .. | | | 1,000 | 0 0 | " Packing materials including baskets, etc. | .. | 21 | 14 3 | | |
| | .. | | | | | " Furniture and plant account | .. | | .. | 38 | 0 6 |
| | .. | | | | | | .. | | .. | 112 | 14 0 |

The Proceedings of the Agri-Horticultural Society of Madras for the 4th Quarter ending the 31st December, 1904.

COMMITTEE MEETING.

At a Committee Meeting held on the 24th October, the following gentlemen were present :—

| | |
|---|---|
| The Hon'ble Mr. Justice H. T. BODDAM (<i>Chairman</i>). | G. NARAYANASAWMY CHETTY, Esq. |
| The Hon'ble Mr. H. BRADLEY, I.C.S. | R. T. MENZIES, Esq., <i>Honorary Treasurer.</i> |
| C. SOWDEN, Esq. | L. E. KIRWAN, Esq., <i>Honorary Secretary.</i> |
| H. E. HOUGHTON, Esq. | |

Read letters of apology for non-attendance from Mr. J. G. Smith and the Hon'ble Dr. A. G. Bourne.

Resolutions.—The following Resolutions were passed :—

1. That the Hon'ble Mr. Justice R. S. Benson be asked to become a member of the Committee in place of Major Bell, resigned.

2. That the Society's Banking Account be transferred to Messrs. Spencer & Co., Ltd.

3. That the pay of Maistry T. Manickam be raised to Rs. 30 per mensem.

4. That the Superintendent be offered a biennial increase of Rs. 25 rising to a maximum of Rs. 400 ; that he be required to subscribe $6\frac{1}{4}$ per cent. of his salary to a Provident Fund ; that a similar amount be added annually by the Society ; and that the new arrangement come into force at the expiration of his present agreement.

5. That Mr. R. T. Menzies be asked to act as Honorary Secretary during Mr. Kirwan's absence in November.

6. That an Album be purchased and kept in the office, and that periodically Photographs be taken of any special trees, and that copies of the same be kept in the Album.

7. That the estimate, amounting to Rs. 1,490 for the erection of new lines, be passed.

Contributions.—The Honorary Secretary then intimated that the following contributions had been made to the Society during October :—

Bulletin No. 6. of the Hawaii Agricultural Experiment Station. Subject.—Mosquitoes in Hawaii, by D. L. Van Dine.

Annual Report on the Taj and other Government Gardens at Agra for the year 1903-04.

The *Indian Forester*, Vol. XXX, No. 10, edited by R. McIntosh, Esq., M.A.

Curtis's Botanical Magazine, Vol. LX, No. 1412, by Sir Joseph Dalton Hooker, M.D., etc.

Government of Madras, Revenue Department.—G. O. Nos. 849, 849a, 5th August, 1904. Results of the Irrigation Experiment at Melrasapuram, Chingleput District.

Catalogue Des Graines Récoltés en 1903. Ministère De l' Instruction Publique, Antibes.

Agricultural News, Vol. III, Nos. 61 and 62, issued by the Commissioner of Agriculture for the West Indies.

The Agricultural Ledger series, Bulletin No. 11, *Carthamus tinctorius*

The *Tropical Agriculturist*, Vol. XXIV, No. 4, edited by Messrs. A. M. & J. Ferguson, Colombo.

Transactions of the Wisconsin Academy of Sciences, Arts and Letters, Vol. XIII, Part II, 1901, and Vol. XIV, Part I, 1902.

Acta Horti Petropolitani, Tomus XXII, Fasc. II, and Tomus XXIII, Fasc. I. and II. du Jardin Impérial botanique de St. Petersbourg.

The *Gardener's Chronicle*, Vol. XXXVI, Nos. 925, 926, 927 and 928.

Plants issued.—The following plants were sent out during October :—

To Dr. Robertson, Medical Officer in charge, S.S. *Umkozi*.

1 Grafted sapodilla (*Achras sapota*).

Plants and seeds received.—The following plants and seeds were presented to the gardens during October :—

From S. Eardley Wilmot, Inspector-General of Forests to the Government of India, Simla.

1½ lb. seeds of *Arundinaria Hookeriana*.

From Major D. Prain, I.M.S., Superintendent, Royal Botanic Gardens, Calcutta.

6 oz. of seeds of *Orotolaria striata*.

From J. A. Yates, Esq., Winston, Kilpauk.

11 Croton cuttings and 1 Caladium.

From C. Michie Smith, Esq., Kodaikanal.

1 packet of seeds of Pepper tree.

1 „ „ „ Washingtonia filifera.

From W. A. Turner, Esq., The Palms, Nungumbaukum.
100 Croton Cuttings.

From R. T. Menzies, Esq., Teynampett.
100 Croton cuttings.

New Members.—The following gentleman was proposed and elected an ordinary member of the Society :—A Class—
The Rev. S. J. Cowdy.

Mr. H. E. Houghton on payment of Rs. 300 was admitted as a life member.

SUPERINTENDENT'S NOTES.

The Progress of the Palavaram Agave Plantation.—In company with the Honorary Secretary, I again visited the Agave plantation at Palavaram, owned by Mr. J. A. Chambers, who with his Manager, Mr. Hutchence, showed us over the estate. Mr. Chambers is steadily increasing the planting area which now amounts to about 330 acres.

The Sisal plants which were supplied by the Society and which were in nursery beds on our last visit are now planted out in rows 6 feet apart. The plants looked healthy, but did not appear to be making very rapid growth. Mr. Chambers in several places upon the estate pointed out to us the ill-effects of too deep planting. In many cases where the plants had been planted up to their crowns they had perished, whilst those which had been planted on small hillocks were in splendid condition. The advantage of planting on high, dry and well-drained land was especially noticeable in the healthy appearance of the plants which had been put out as a hedge on raised ground. In Mr. Chambers' newer plantation he is not adhering to the old method of planting out 5 feet \times 7 feet, but, instead, is putting in his plants 4 feet \times 6 feet. He argues that it is waste of land to plant further apart, as the plants do not appear to require a large amount of air (as illustrated by the splendid specimens of Agaves met with on the Railway embankments) and close planting does not appear to retard their growth. Moreover, he said the London Brokers report that a staple over 3 to 4 feet long is not required or sought after.

The Poling of *Agave rigida* var. *Sisalana*.—The premature poling of this plant in India, and probably in other tropical countries into which it has been introduced from Yucatan, is a serious matter for the would-be fibre planter. From reports received from Northern India it would seem that the hotter the climate the quicker the plants mature.

In Yucatan, a plantation is said to grow and produce half-yearly crops up to the 25th year, at which age the plant poles and dies.

In Assam Mr. Mann tells us the plants pole in their tenth year. Here in Madras experience has shown that the plants pole in their seventh year. It is well known that any and every plant requires a certain amount of heat to bring it to maturity, though it is not necessary that plants should be grown at a certain temperature. But certain plants when grown at a high temperature are brought to maturity earlier and are rendered less fruitful, and even barren, by over stimulating vegetative action, which process is known to Horticulturalists as "forcing." The climatic conditions of Yucatan do not appear to have their counterpart in India. Yucatan, owing to its geographical position, is screened from the rain clouds of the Pacific by a range of hills known as the *Sierre Madre*, and there are no high hills there to catch and condense the moisture-laden clouds from the Atlantic. It has in consequence a deficient and uncertain rainfall, with a temperature ranging from 75° Fahr. to 98° Fahr. The seasons are noticeable, not so much for a fall of temperature, as for an increase of atmospheric moisture, the dry hot weather lasting from October to May. The calcareous character of the soil is also accountable for the non-existence of rivers, the soil being too porous to allow water to remain on the surface. One must presume, therefore, that although the heat is great, it is less than that of Madras, and coupled with this is the fact that the moist atmosphere of Madras tends indirectly to raise the temperature of the plant, by reducing transpiration, and causing a slower combustion of its carbon, and thus quickening the growth of the plant. Plants growing at Bangalore, which has an elevation of 3,000 feet and a temperature ranging from 60° Fahr. to 90° Fahr. are more robust, and produce when mature as many as 2,000 bulbils on a single pole; as compared with Madras plants, which produce on an average from 1,000 to 1,200. This difference is very marked. It, therefore, appears patent that though the plants grow and flourish here, they have not found the same conditions as in their native habitat. Planters in consequence will be greatly handicapped in that a plantation when mature for fibre purposes will only last for 3 or 4 years, whilst their Yucatan rivals need only renew their plantations once in every 25 years. Experiments are now being undertaken by the Society to ascertain the comparative qualities of the fibre produced by *Agave* plants at Bangalore, Chikmagalur and Madras. the results of which will be found in my notes for December.

Experiments with Agaves.—An interesting experiment has been undertaken with the various Agaves growing in and around Madras; and to make the data obtained more complete, Mr. J. Cameron, of Bangalore, and Mr. N. G. B. Kirwan, of Chikmagalur, very kindly gave their assistance by supplying mature and well developed leaves from Agave plants growing in their respective districts.

Leaves of the following varieties were despatched from these gardens:—Agave Americana, Agave rigida var. Sisalana and Agave Wightii syn. vivipara. Mr. Cameron sent Agave rigida var. Sisalana and Fourcroya gigantea and Mr. Kirwan sent Agave Americana. The whole of these samples were despatched direct to Penukonda, where the South Indian Fibre Company have a Todd's machine working. Mr. Chambers, the Secretary of the South Indian Fibre Company, who had very kindly promised his assistance, had the fibres extracted by this machine, and the following notes of the results obtained were received from Mr. Chambers:—

Result of Aloe leaves tested by the Todd's Fibre Machine.

Leaves from the Agri-Horticultural Society, Teynampet, Madras.

"*Agave Vivipara* syn. *Wightii* (Prain).—Short, good leaf, rather too short for Todd's machine; average length about 2'; weight of leaves 178 lbs.; fibre made 3 $\frac{3}{4}$ lbs.; percentage of fibre obtained 2.10.

"*Sisal Hemp*.—Good long leaf, average length 3 $\frac{1}{2}$ to 4'; weight of leaves 460 lbs.; fibre made 14 lbs.; percentage of fibre obtained 3.04.

"*Agave Americana*.—Long leaf, 4 $\frac{1}{2}$ to 5'; very thick butts; arrived in a rather stale condition as will be seen from the colour of the fibre: rather a lot of wastage; weight of leaves 557 lbs.; fibre made 13 lbs.; percentage of fibre obtained 2.33."

From Lal Bagh, Bangalore.

"*Sisal Hemp*.—Good long leaf, a little too long for Todd's machine, 4 to 5 $\frac{3}{4}$ '; weight of leaves 372 lbs.; fibre made 10 lbs.; percentage 2.68.

"*Mauritius Hemp*.—*Fourcroya gigantea*. Very long leaf, with very thick butts; had to be halved to enable it to be put through the machine; average length 6 $\frac{1}{2}$ to 7'; weight of leaves 480 lbs.; fibre made 7 $\frac{1}{2}$ lbs.; percentage 1.45."

From Chickmagalur, Kadur.

"*Agave Americana*.—Medium length and broad leaf; arrived in a stale and damaged condition, weight of leaves 494 lbs.; fibre made 12 lbs.; percentage 2.42."

Samples of the fibre are being sent to the Imperial Institute, with the request that they may be reported on. The results

should prove of great value to those interested in their cultivation.

It will be noticed from the reports of the South Indian Fibre Company's Secretary, that although the Bangalore sisal had a longer leaf, yet the percentage of cleaned fibre was less than from the Madras-grown plants.

Para Rubber.—Much has been written of late upon the Pararubber tree (*Hevea Brasiliensis*), its growth, the collecting and curing of the latex, and the diseases attacking the tree. The germination of the seed, however, does not appear to have attracted much attention. Although authorities appear to differ as to the requirements, etc., of the tree, there appears to be no doubt as to the methods of germination, which are as follows:— (1) Sow the seeds direct into pots; (2) make seed beds, and after sowing the seeds, cover them with from two to three inches of soil; or (3) sow at stake, *viz.*, out in the jungle, the scrub been cleared sufficiently to allow the young plant air and light. The general opinion is that the vitality of Para seed is short, and many failures are put down to this cause. It would appear, however, that the majority of failures are due to the treatment of the seed in its earliest stages. Deep burying of the seeds is a fatal process, as the heavy weight of soil upon the *micropyle*, must cause undue exertion upon the *plumule* in forcing its way out. In doing which it is liable to be injured by the extra pressure. The injury thus caused forms a host for fungi which kills the plant in the embryo stage. Again, seeds to be germinated successfully require an even temperature and moisture; it is difficult to regulate the moisture, when the seeds are sown 3 inches deep.

In these Gardens we have been in the habit for the last 3 years of germinating seeds to supply to planters on the Nilgiris. The first year the plan of sowing direct in pots and pans was adopted with very poor results. In the second and third years a system on the plan of a seed-tester were tried. Platforms were erected about 3 ft. from the ground, and on these old sacking was stretched (coir matting would be preferable). Over this was placed a little powdered charcoal to assist in retaining the moisture. The seeds were then placed on this and covered over with more sacking, and the whole kept damp by occasional watering. The seeds were examined every day, and as soon as any showed signs of germinating they were removed and potted off. Seventy-five per cent. of a case of seeds received from Peradeniya germinated after this treatment, in spite of being delayed by the Madras Customs authorities for over three weeks.

Contributions.—The following contributions were made to the Society during November :—

Government of Madras, Revenue Department.—G. O. No. 1113, 3rd October, 1904—Co operative Credit Societies in Chingleput. G. O. No. 1115, 4th October, 1904—Season and Crop Reports. G. O. No. 1091, 29th September, 1904—Cotton. G. O. No. 1147, 12th October, 1904—Cattle Shows.

Bulletin of the Department of Agriculture, Jamaica, Vol. II, Part 10, edited by William Fawcett, Esq., B.Sc., F.L.S.

Land Records Administration Report, Rangoon, for the year ending 30th June, 1904.

The Indian Forester, Vol. XXX, No. 11, edited by R. McIntosh, Esq., M.A.

Bulletin de L'Institut Botanique de Buitenzorg, No. XIX.

Season and Crop Reports of Bengal for the year 1903-04.

The Gardener's Chronicle, Vol. XXXVI, Nos. 929, 930, 931, 932 and 933.

The Agricultural News, Vol. III, Nos. 63 and 64, issued by the Commissioner of the Imperial Department of Agriculture for the West Indies.

The Tropical Agriculturist, Vol. XXIV, No. 5, edited by Messrs. A. M. & J. Ferguson, Colombo.

Curtis's Botanical Magazine, Vol. LX, No. 1413, by Sir Joseph Dalton Hooker, M.D., etc.

Experimental Station Record, Vol. XV, No. 12, and Vol. XVI, No. 1, issued by the U. S. Department of Agriculture.

The Queensland Agricultural Journal, Vol. XV, Part 4, edited by A. J. Boyd, Esq., F.R.G.S.Q.

Plants and seeds issued.—The following plants were sent out during November :—

To C. J. Hay-Ellis, Esq., Superintendent, People's Park, Madras.

71 Plants, a miscellaneous collection.

Plants and seeds received.—The following plants and seeds were presented to the Society during November :—

From Major D. Prain, I.M.S., Superintendent, Royal Botanic Gardens, Calcutta.

8 oz. of seeds of *Crotolaria striata*.

From L. E. Kirwan, Esq., Honorary Secretary.

5 *Bauhinia* sp.

4 Lily bulbs.

1 *Osmunda Regalis*.

1 Ground orchid (Coorg).

- | | |
|--|--------------------------------|
| 1 <i>Adiantum hispidulum</i> . | 7 <i>Aerides</i> sp. |
| 1 " sp. | 2 <i>Cymbidium aloëfolium</i> |
| 2 <i>Davalia</i> sp. | 1 " sp. |
| 3 <i>Alsophila</i> sp. | 3 <i>Vanda</i> sp. |
| 4 <i>Orchis</i> sp. | 1 <i>Bulbophyllum</i> sp. |
| 4 <i>Dendrobium</i> sp. | 2 <i>Dendrobium Parishii</i> . |
| 1 " " | 1 " <i>Pierardi</i> . |
| 2 " " | 5 " sp. |
| 1 <i>Celogyne</i> sp. | |
| 1 Packet of seeds collected in the Mysore jungles. | |
| 1 " " of South American Cotton. | |
| 1 " " <i>Orchis</i> sp. | |
| 1 " " South American Castor oil (<i>Ricinus</i> sp.). | |

From His Excellency the Governor's Gardens at Guindy.

- 1 Basket of seeds of *Castanospermum Australe*.

New Members.—The following gentlemen were elected ordinary members of the Society:—

Class A—Bernard Malcolm, Esq. and M. Venkatachellum, Esq.

COMMITTEE MEETING.

At a Committee Meeting held on the 5th December, the following gentlemen were present:—

The Hon'ble Mr. Justice H. T. BODDAM, *Chairman*.
 The Hon'ble Mr. H. BRADLEY, I.C.S.
 J. G. SMITH, Esq.
 H. E. HOUGHTON, Esq.
 G. NARAYANASAWMY CHETTY, Esq.
 L. E. KIRWAN, Esq., *Honorary Secretary*.

Resolutions.—The following Resolutions were passed:—

1. That slips be printed and enclosed with all letters and orders, stating that the privileges granted to members are not transferable.
2. That the Prize schedule be printed and circulated.
3. That the increase in Mr. Cavanagh's salary start from the date of his new Agreement.
4. That Mr. Cavanagh be permitted to make a tennis court by his Bungalow, providing no harm is done to the Society's property.

Contributions.—The Honorary Secretary then intimated that the following contributions had been made to the Society during the month of December :—

Season and Crop Report of the Bombay Presidency for the year 1903-04.

Report of the Department of Agriculture, Bombay Presidency, for the year 1903-04.

Annual Report on the Experimental Farms in the Bombay Presidency for the year ending 31st March, 1904.

Annual Report on Government Gardens and Parks in Mysore for the year 1903-04.

Report on the operations of the Department of Agriculture, Madras Presidency, for the official year 1903-04.

The Agricultural Ledger Series. Bulletin No. 13, *Coix sp.* or Job's tears, issued by Sir George Watt, Calcutta.

Agricultural Statistics of the Lower Provinces of Bengal for the year 1903-04.

Report on the Cawnpore Farm and other Experiment Stations in the United Provinces for the year ending 30th June, 1904.

Reports on the Botanic Station and Experiment Plots, Grenada, 1903-04.

Bulletins of the Department of Agriculture, Vol. II, Part IX, and Vol. III, Part XI, also Annual Report on the Public Gardens and Plantations for the year ending the 31st March, 1904, edited by William Fawcett, Esq., B.Sc., F.L.S.

Semi-Annual Report of Messrs. Schimmel & Co., London and New York.

Family Fulgoridæ of North America, North of Mexico, issued by the Ohio Department of Agriculture.

The *Queensland Agricultural Journal*, Vol. XV, Part 5, edited by A. J. Boyd, Esq., F.R.G.S.Q.

The *Tropical Agriculturist*, Vol. XXIV, No. 6, edited by Messrs. A. M. & J. Ferguson, Colombo.

The *Indian Forester*, Vol. XXX, No. 12, edited by E. P. Stebbing, Esq.

The following Bulletins from the Central Experimental Farm, Ottawa, Canada :—

No. 45. Emmer and Spelt.

No. 47. Trees and Shrubs, by Wm. Saunders, LL.D.

Inspectie Vandeu Landbouw in West Indie.

Bulletin No. 1. Door, by Dr. C. J. J. Van Hall.

Records of the Botanical Survey of India, Vol. IV, No. 1. An epitome of the British Indian species of *Impatiens*, by Sir Joseph Dalton Hooker, M.D., etc.

Curtis's Botanical Magazine, Vol. LX, No. 1414, edited by Sir Joseph Dalton Hooker, M.D., etc.

The following Proceedings of the Government of Madras, Revenue Department:—

G. O. No. 1020, 14th September, 1904, Agricultural Farms.

G. O. No. 1030, 15th „ „ 1904, Insect Pests.

G. O. No. 1049, 20th „ „ 1904, Report on the Operations of the Department of Agriculture.

G. O. No. 1063, 23rd „ „ 1904, Tobacco.

Annual Report of the Botanic Gardens and Domains, New South Wales, for the year 1903.

Records of the Geological Survey of India, Vol. XXXI, Part 4, 1904.

Bulletin of miscellaneous information, Appendix I. issued by the Director, Royal Botanic Gardens, Kew.

The following Bulletins issued by the College of Agriculture, California:—

No. 156. Fowl Cholera, by Archibald R. Ward, Esq.

No. 157. Commercial Fertilizers, by George Roberts.

The *Gardener's Chronicle*, Vol. XXXVI, Nos. 934, 935, 936 and 937.

The *Agricultural News*, Vol. III, Nos. 65 and 66.

Messrs. James Veitch & Sons' Catalogue of seeds for 1905.

Messrs. Sutton & Sons' Catalogue of seeds for 1905.

Plants issued.—The following plants and seeds were issued during the month of December:—

To J. Cameron, Esq., Superintendent, Lal Bagh, Bangalore.

5 Japanese Bamboos. 1 *Moluccana bambusioides*.

1 *Oxytenanthera* sp. 1 *Bambusa spinosa* and 33 other plants.

Plants and seeds received.—The following plants and seeds were presented to the Gardens during December:—

From A. G. Miller, Esq., Sivaganga.

8 Packets of seeds.

From Messrs. R. Venkatasawmy Raju & Sons, Bangalore.

1 doz. *Adiantum cuneatum*.

$\frac{1}{2}$ " " " " var. *gracilliumm*.

1 " Rose *Devoniensis*, No. 2.

From G. A. Chambers, Esq., Madras.

6 Bulbils of *Agave* sp., No. 1. (*Prain*.)

New Members.—The following gentlemen were elected ordinary members of the Society :—Class A—Dr. C. S. Conran and E. H. Roebuck, Esq. Class B—G. A. Chambers, Esq. and Venkata Sama Row, Esq.

L. E. KIRWAN,
Honorary Secretary.

Financial Statement from October to December 1904.

144

| PARTICULARS OF RECEIPTS. | Amount. | | Total. | | PARTICULARS OF DISBURSEMENTS. | | Amount. | | Total. | |
|--|---------|-------|--------|-------|---|--|---------|-------|--------|-------|
| | RS. | A. P. | RS. | A. P. | | | RS. | A. P. | RS. | A. P. |
| By Balance with Messrs. Binny & Co. on the 30th September, 1904 .. | 1,660 | 3 1 | | | To Salary of the Superintendent, Office and Garden Establishment .. | | .. | .. | 1,554 | 10 6 |
| Do. of Petty Cash in hand on the 30th September, 1904. | 200 | 0 0 | | | " Garden Coolies, Permanent .. | | 187 | 3 6 | | |
| | | | 1,860 | 3 1 | " Do. Temporary .. | | 129 | 15 3 | | |
| " Security of Cashier S. Thathachari deposited with Messrs. Arbuthnot & Co. .. | .. | .. | 750 | 0 0 | " Commission to the Superintendent for the 3rd quarter, 1904 .. | | .. | .. | 44 | 12 3 |
| " Subscription from Members of A Class .. | 1,000 | 0 0 | | | " Purchase of seeds, plants, flowers, and fruit trees, etc. .. | | .. | .. | 594 | 11 2 |
| " Subscription from Members of B Class .. | 102 | 0 0 | | | " Charges recoverable account .. | | .. | .. | 314 | 0 3 |
| " Government Grant for the month of August 1904 .. | 250 | 0 0 | 1,102 | 0 0 | " Garden Requisites, including pots, etc. .. | | .. | .. | 190 | 5 9 |
| " Government Grant for the month of September 1904 .. | 250 | 0 0 | | | " Discount on Mofussil cheques .. | | 0 | 10 0 | | |
| " Government Grant for the month of October 1904 .. | 250 | 0 0 | | | " Petty charges, including carriage hire, etc. .. | | 42 | 15 1 | | |
| " Government Grant for the month of November 1904 .. | 250 | 0 0 | | | " Sundries, including oil, etc. .. | | 1 | 5 0 | | |
| | | | 1,000 | 0 0 | " Packing Materials, including baskets, etc. .. | | 26 | 15 2 | | |
| | | | | | " Furniture and Plant account .. | | .. | .. | 71 | 13 3 |
| | | | | | " Books and Periodicals account .. | | .. | .. | 131 | 15 6 |
| | | | | | " Printing and Stationery account .. | | .. | .. | 13 | 5 0 |
| | | | | | | | .. | .. | 254 | 8 0 |

| | | | | |
|---|-------|-----|------------------------------------|-------------|
| " Sales of seeds, plants, flowers, fruit trees, etc. | 1,901 | 9 0 | Postages and Stamps account .. | 60 15 6 |
| " Sales of Ichthemic guano | 46 | 0 0 | " Advertisement Charges account .. | 27 11 6 |
| " Interest from Bankers.. | .. | .. | " Garden Expenses account .. | 50 5 2 |
| " Balance with Messrs. Spencer & Co., Ltd., on 31st December, 1904 .. | .. | .. | " Travelling Expenses account .. | 14 12 0 |
| | | | | 153 12 2 |
| | | | | 92 6 7 |
| | | | | 22 14 0 |
| | | | | 98 9 9 |
| | | | | 1,000 0 0 |
| | | | | 750 0 0 |
| | | | | 200 0 0 |
| | | | | 893 11 10 |
| | | | | 1,093 11 10 |
| | | | | 6,698 10 9 |
| Total Rupees .. | .. | .. | Total Rupees .. | .. |

R. T. MENZIES,
Honorary Treasurer.

Audited and found correct.
THOS. CRONAN,
Auditor.

AGRI-HORTICULTURAL SOCIETY, }
MADRAS, }
TEYNAMPETT, 11th January, 1905.

L. E. KIRWAN,
Honorary Secretary.

